Unicenter® CA-APAS®
Insight Monitor for Adabas

Installation Guide

4.1

Computer Associates®

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Chapter 1

Planning Your Unicenter CA-APAS Installation

This guide contains the information and instructions you need to install Unicenter CA-APAS Insight Monitor for Adabas (Unicenter CA-APAS). Unicenter CA-APAS is a set of programs used to monitor an Adabas database management system by extracting information from the Adabas Command Logs and from Unicenter CA-APAS derived information.

Purpose

This chapter provides information you should use to plan for the installation of Unicenter CA-APAS Insight Monitor for Adabas (Unicenter CA-APAS). It is highly recommended that you read this chapter before installing and using Unicenter CA-APAS or reading any other manual in the documentation set.

Certain knowledge is required to complete the installation process and for the execution of Unicenter CA-APAS. For instance, you must be familiar with JCL; IEBCOPY and IEBGENER utilities; assembly and link edit processing; Adabas installation and operations; Adabas Command Logging and user exits; and Natural nucleus generation.

Installation Materials

Before beginning the installation procedure, make sure that you have the correct Unicenter CA-APAS installation tape. Verify the volume serial number on the tape matches the volume serial number specified in the Product Maintenance Letter received with the product package. If you did not receive the proper tape, please contact the Computer Associates Order department at 1-800-841-8743.

In addition, verify that you received a Product Authorization letter containing a numeric password required for installation. If you did not receive the Product Authorization letter, please contact your local Technical Support group.

IBM users, make sure you also received a CA LMP Key Certificate for Unicenter CA-APAS with the product package and installation tape. If you did not receive a Unicenter CA-APAS LMP Key Certificate, contact your Computer Associates account manager or the CA Total License Care Hot Line at 1-800-338-6720.

Unicenter CA-APAS System Requirements

The following hardware and software requirements are necessary for the successful installation of Unicenter CA-APAS and the monitoring of Adabas:

- Adabas versions 7.1, 7.2, or 7.4
- Natural version 3.1
- z/OS or OS/390 operating systems that support Adabas V7.1 or higher
- Fujitsu MSP operating systems that support Adabas V7.1 or higher
- Hitachi VOS3 operating systems that support Adabas V7.1 or higher
- 3270-type display device with a minimum screen size of 24 by 80 characters
- CICS version 4.1
- CICS Transaction Server versions 1.1, 1.2, 1.3, 2.1 or 2.2
- COM-PLETE versions 5.1, 6.1, or 6.2
- IMS versions 5.1 or 6.1

Unicenter CA-APAS also requires an APF-authorized library for execution if Adabas is executing from an APF-authorized library.

Note: Unicenter CA-APAS does *not* require any SVCs or hooks.

Data Collector Requirements

The following list summarizes the Adabas and operating system environmental requirements for the Unicenter CA-APAS Data Collector:

- There must be one Data Collector for each Adabas nucleus to be monitored. The Data Collector runs as a User Exit 4, the Command Log exit, in the Adabas nucleus.
- The Data Collector requires for execution at least 500K of virtual storage available after Adabas has completed its storage allocation.
- The Data Collector requires a single GETMAINed storage area in the nucleus the size of the ENSU-BUFFER parameter specified in the GLOBALS statement to hold CMD log and IOLOG records until processed by the Data Collector. The amount of ENSU-BUFFER used during an MPM session can be monitored using the Unicenter CA-APAS shutdown statistics message, DBG76026I, which is written to DBGPRINT at shutdown.
- The amount of additional storage required depends on the number of EXTRACT and SUMMARIZE requests active. You can obtain statistics about the amount of storage used by a specific request using the Unicenter CA-APAS SHOW screen. Plus the overall storage can be monitored using the Unicenter CA-APAS shutdown statistics message, DBG98003I, which is written to DBGPRINT at shutdown.
- The Data Collector can produce report files, PRINT TO files, and machine readable data files, OUTPUT-FILES. These data sets must be specified in the Adabas MPM JCL if executing in MPM mode or in the APASENSU JCL if executing in batch mode.

Natural User Interface Requirements

The following discusses the operational requirements and considerations for installing and executing the Unicenter CA-APAS Natural User Interface.

- Data communications between the Data Collector and the User Interface is handled by the Adabas link routines. Using a User Exit B routine, the Before-Adabas-Call exit, Unicenter CA-APAS creates a User Information Data Area that is then passed to the Adabas nucleus with the Adabas Control Block by the Adabas link routine.
- The Natural User Interface requires that the Unicenter CA-APAS subroutine module, NATINS, be specified as a CSTATIC module in the Natural parameter module and be link edited into the Natural nucleus.
- Exiting the Unicenter CA-APAS Natural User Interface or selecting another Adabas nucleus to monitor does not stop the Data Collector or any active requests.

DASD Storage Requirements

This following summarizes the DASD storage requirements and data set allocations for required and optional Unicenter CA-APAS components and CA-SpaceMan. Associated directory blocks are shown in parentheses ().

- Required Unicenter CA-APAS product libraries and files:

Lowqual	Type	PRODVOL Size	Contents
APASV*vvv*.INSTALL	PDS	1 Cylinder (10)	Installation Library
APASV*vvv*.LOAD	PDS	3 Cylinders (15)	Load Library
APASV*vvv*.SOURCE	PDS	3 Cylinders (25)	Source and Support Library
INSV*vvv*.NATDDM	PS	1 Cylinder	Natural DDMs
INSV*vvv*.NATOBJ	PS	2 Cylinders	Natural Objects Modules
INSV*vvv*.NATSRC	PS	4 Cylinders	Natural Source Modules

- Optional Performance History System product libraries:

Lowqual	Type	PRODVOL Size	Contents
HISTV*vvv*.NATDDM	PS	1 Cylinder	Natural DDMs
HISTV*vvv*.NATOBJ	PS	1 Cylinder	Natural Object Modules
HISTV*vvv*.NATSRC	PS	3 Cylinder	Natural Source Modules
HISTV*vvv*.UNLOAD	PS	1 Cylinder	Empty, unloaded History File.

Distribution Tape Format

The distribution tape contains data sets for Unicenter CA-APAS, for Unicenter CA-SpaceMan and for Unicenter CA-PLEU. In addition to the product libraries, the tape also contains the unloaded Natural applications for Unicenter CA-APAS, the Unicenter CA-APAS Performance History System and Unicenter CA-SpaceMan. The tape also contains unloaded, empty Adabas files for the Unicenter CA-APAS History File and for the Unicenter CA-SpaceMan Repository File.

Library Management

We strongly recommend the following library management guidelines.

- Avoid mixing Unicenter CA-APAS and non-Unicenter CA-APAS members in a given library. This simplifies future maintenance of both Unicenter CA-APAS and non-Unicenter CA-APAS systems.
- Avoid mixing members from different releases of Unicenter CA-APAS in a given library. This avoids interactions between incompatible modules.

  Many of the members in the Unicenter CA-APAS product libraries are incompatible with previous releases. Do not merge or concatenate these libraries with those of earlier releases.

Naming Conventions

The naming conventions used to allocate and build the Unicenter CA-APAS product libraries and files are as follows:

```
hlq.mlq.lowqual
```

The value for **`lowqual`** is unique and predefined for each product library and file.

CA Common Services for z/OS and OS/390

To help you quickly understand all that CA Common Services for z/OS and OS/390 offers, this section provides a brief description of the common services that can be used by Unicenter CA-APAS.

The CA Common Services for z/OS and OS/390 are a group of system services that protect your investment in software products by helping you manage your data center more efficiently. The CA Common Services for z/OS and OS/390 offer individual benefits to the user.

The CA Common Services for z/OS and OS/390 that are used with, and benefit, Unicenter CA-APAS is CAIRIM and CA LMP, which assist you in getting Unicenter CA-APAS up and running.

Installing CA Common Services for z/OS and OS/390

According to your data center's specific needs, you can choose to use only certain CA Common Services for z/OS and OS/390. Some of the services are dependent on one or more other services to function properly when interfacing with your Computer Associates software. The interservice dependencies for the services used by Unicenter CA-APAS are listed below.

If you are installing:	You must also install:
CAIRIM	No other services are required
CA LMP	CAIRIM

If the necessary services have not already been installed on your system, you must do so now. Refer to the *CA Common Services for z/OS and OS/390 Getting Started* for detailed instructions.

If the CA Common Services for z/OS and OS/390 services are not installed and you attempt to use Unicenter CA-APAS, a S122 abend results.

CAIRIM

CAIRIM, CAI Resource Initialization Manager, is the common driver for a collection of dynamic initialization routines that eliminate the need for user SVCs, SMF exits, subsystems, and other installation requirements commonly encountered when installing systems software. These routines are grouped under the Computer Associates z/OS and OS/390 dynamic service code, S910. Some of the features of CAIRIM include:

- Obtaining SMF data
- Verification of proper software installation
- Installation of z/OS and OS/390 interfaces
- Automatic startup of Computer Associates and other vendor products
- Proper timing and order of initialization
- No other services are required for proper operation.

Note: CAIRIM is mandatory for Unicenter CA-APAS. It must be installed and started within 30 minutes of IPL time. CAIRIM is part of the CA Common Services for z/OS and OS/390.

CA LMP

The Computer Associates License Management Program (CA LMP) provides a standardized and automated approach to the tracking of licensed software. It uses common real-time enforcement software to validate the user's configuration. CA LMP reports on activities related to the license, usage, and financials of Computer Associates software solutions. The routines that accomplish this are integrated into the Computer Associates z/OS and OS/390 dynamic service code, S910 (the CAIRIM service). Some of the features of CA LMP include:

- Common Key Data Set can be shared among many CPUs
- "Check digits" are used to detect errors in transcribing key information
- Execution Keys can be entered without affecting any Computer Associates software solution that is already running
- There are no special maintenance requirements

Requirements

Unicenter CA-APAS requires CA Common Services for z/OS and OS/390 at genlevel 9901 or above.

Refer to eSupport for additional Unicenter Services minimum genlevel requirements for your release of OS/390 or z/OS.

Using CA LMP

Unicenter CA-APAS requires CA LMP (License Management Program), one of the Common Services, to initialize correctly. CA LMP also provides a standardized and automated approach to the tracking of licensed software.

CA LMP is provided as an integral part of CAIRIM (Resource Initialization Manager), another one of the Common Services. If CAIRIM has not already been installed on your system, you must do so now. Once CAIRIM has been installed or maintained at Service Level C1/9901 or higher, CA LMP support is available for all CA LMP—supported CA software solutions. See the *CA Common Services for z/OS and OS/390 Getting Started* guide for detailed instructions on installing CAIRIM.

Examine the CA LMP Key Certificate you received with the Unicenter CA-APAS installation or maintenance tape. That certificate contains the following information:

Fields	Descriptions
Product Name	The trademarked or registered name of the CA software solution licensed for the designated site and CPUs.
Product Code	A two-character code that corresponds to Unicenter CA-APAS.
Supplement	The reference number of your license for Unicenter CA-APAS, in the format *nnnnnn - nnn*. This format differs slightly inside and outside North America, and in some cases may not be provided at all.
CPU ID	The code that identifies the specific CPU for which installation of Unicenter CA-APAS is valid.
Execution Key	An encrypted code required by CA LMP for Unicenter CA-APAS initialization. During installation, it is referred to as the LMP Code.
Expiration Date	The date *(ddmmmyy* as in 01AUG02) your license for Unicenter CA-APAS expires.

Fields	Descriptions
Technical Contact	The name of the technical contact at your site responsible for the installation and maintenance of Unicenter CA-APAS. This is the person to whom CA addresses all CA LMP correspondence.
MIS Director	The name of the Director of MIS, or the person who performs that function at your site. If the title but not the individual's name is indicated on the Certificate, you should supply the actual name when correcting and verifying the Certificate.
CPU Location	The address of the building where the CPU is installed.

The CA LMP execution key, provided on the Key Certificate, must be added to the CAIRIM parameters to ensure proper initialization of Unicenter CA-APAS. To define a CA LMP execution key to the CAIRIM parameters, modify member KEYS in the OPTLIB data set.

The parameter structure for member KEYS is as follows:

```
PROD(pp) DATE(ddmmmyy) CPU(tttt-mmmm/ssssss) LMPCODE(kkkkkkkkkkkkkkkk)
```

Where:

pp—Required. The two-character product code that corresponds to Unicenter CA-APAS. For any given CA LMP software solution, this code agrees with the product code already in use by the CAIRIM initialization parameters for earlier gen levels of that software solution.

The two-character product codes for Unicenter CA-APAS are:

HM z/OS and OS/390

ddmmmyy—The CA LMP licensing agreement expiration date.

tttt-mmmm—Required. The CPU type and model (for example: 3090 - 600) on which the CA LMP software solution is to run. If the CPU type and/or model require less than four characters, blank spaces are inserted for the unused characters.

ssssss—Required. The serial number of the CPU on which the CA LMP software solution is to run.

kkkkkkkkkkkkkkkk—Required. The execution key needed to run the CA LMP software solution. This CA LMP execution key is provided on the Key Certificate shipped with each CA LMP software solution.

The following is an example of a control statement for the CA LMP execution software parameter. Although this example uses the Unicenter CA-APAS two-character product code, the CA LMP execution key value is invalid and is provided as an example only!

```
PROD(HS) DATE(01AUG02) CPU(3090– –– –600 /370623) LMPCODE(52H2K06130Z7RZD6)
```

For a full description of the procedure for defining the CA LMP execution key to the CAIRIM parameters, see the *CA Common Services for z/OS and OS/390 Getting Started*.

Technical Support

If questions arise during the installation or operation of Unicenter CA-APAS, or if you have suggestions regarding the use of the product, please call Computer Associates Technical Support:

- U.S. and Canadian customers: (425) 825-2770
- International customers: Contact your nearest Computer Associates office

Chapter 2

Unicenter CA-APAS Installation

The Unicenter CA-APAS Insight Monitor for Adabas (Unicenter CA-APAS) has several required components and several optional components. We suggest a staged approach to installation, particularly if you are a first-time user of Unicenter CA-APAS. This approach simplifies the installation process and allows you to use and understand features in a logical progression.

- IBM z/OS and OS/390 users should proceed to the following section: Define the Computer Associates LMP Key.
- Fujitsu MSP and Hitachi VOS3 users should proceed directly to the section: Complete the Unicenter CA-APAS Installation Worksheet on the following page.

Define the Computer Associates LMP Key

Note: This step is required for IBM z/OS and OS/390 users only.

Make sure you received a CA LMP Key Certificate for Unicenter CA-APAS with your product package and installation tape. If you did not receive a Unicenter CA-APAS LMP Key Certificate, contact your Computer Associates account manager or the Total License Care Hot Line at (800) 338-6720.

You must define the CA LMP execution key to the CAIRIM parameters. For a full description of the procedure, see the *CA Common Services for z/OS and OS/390 Getting Started* guide.

Complete the Unicenter CA-APAS Installation Worksheet

Note: This step is recommended whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

The JCL members you use in the installation steps that follow need to be modified to conform to your site specifications. At a minimum, you must change each PDS member to supply job cards, data set names, and VOLSER information.

In this step, you complete the Unicenter CA-APAS Installation Worksheet below with the defaults to be used to modify the installation PDS members.

Unicenter CA-APAS Installation Worksheet

Enter the values you assign to the environment variables in the following table.

Environment Variable	Description
ACISRCE	Specify a value for the Adabas CICS source library to be used in distributed JCL.
ADACLOG	Specify a value for the Adabas Command Log data set name to be used in distributed JCL. This is the data set name of DDLOG, DDCLOGRn, or an ADARES CLCOPY.
ADADBID	Specify a value for the Unicenter CA-APAS GLOBALS parameter DBID. This 1 to 65535 numeric value identifies an Adabas database and is printed on all reports.
ADALOAD	Specify a value for the Adabas load library to be used in distributed JCL.
ADANAME	Specify a value for the Unicenter CA-APAS GLOBALS parameter DBNAME. This eight-character name identifies an Adabas database and is printed on all reports.
ADASRCE	Specify a value for the Adabas source library to be used in distributed JCL.

Environment Variable	Description
ADASVC	Specify a value for the Adabas SVC number to be used in distributed JCL.
APASPSWD	Specify the eight-digit number found in the Product Authorization letter included in the product package.
CICSLOAD	Specify a value for the CICS load library to be used in distributed JCL.
CICSMAC	Specify a value for the CICS macro library to be used in distributed JCL.
CICSSRCE	Specify a value for the CICS source library to be used in distributed JCL.
COMSRCE	Specify a value for the COM-PLETE source library to be used in distributed JCL.
CPUID	Specify a value for the Unicenter CA-APAS GLOBALS parameter CPU-ID. This one to eight character alphanumeric name is printed on all reports.
DISKUNIT	Specify a value for the generic DASD unit name to be used in the distributed JCL.
FSYSDBID	Specify a value for the DBID for the Adabas file containing the Natural System file (FNAT or FDIC) to which the DDMs are to be loaded.

Environment Variable	Description
FSYSFNR	Specify a value for the file number for the Adabas file containing the Natural System file (FNAT or FDIC) to which the DDMs are to be loaded.
FSYSPSWD	Specify a value for the password for the Adabas file containing the Natural System file (FNAT or FDIC) to which the DDMs are to be loaded.
FUSRDBID	Specify a value for the DBID for the Adabas file containing the Natural User library (FUSER) to which the Natural source and object members are to be loaded.
FUSRFNR	Specify a value for the file number for the Adabas file containing the Natural User library (FUSER) to which the Natural source and object members are to be loaded.
FUSRPSWD	Specify a value for the password for the Adabas file containing the Natural User library (FUSER) to which the Natural source and object members are to be loaded.
HLQ	Specify a value for the high-level qualifier of all data sets to be used in distributed JCL.
INSLIBID	Specify the value for the Natural library-id where Natural source and object members are to be loaded for Unicenter CA-APAS. The default value is INSIGHT. You can accept the default or specify a new library-id.
JOBCARD1	Specify a value for jobcard line one to be used in distributed JCL.
JOBCARD2	Specify a value for jobcard line two to be used in distributed JCL.

Environment Variable	Description
MLQ	Specify a value for the mid-level qualifier of all data sets to be used in distributed JCL.
PRODVOL	Specify a value for the DASD volume on which product libraries are to be allocated.
TAPEUNIT	Specify a value for the generic tape unit name to be used in distributed JCL used to unload product libraries.
TAPEVOL	Specify a value for the VOLSER of the distribution tape to be used in JCL used to unload product libraries.
VVVV	Specify a value for the Unicenter CA-APAS version of all data sets to be used in distributed JCL.

IBM z/OS and OS/390 Users

IBM z/OS and OS/390 users proceed with the installation steps beginning with Part 1: Basic Installation for z/OS and OS/390 in this chapter.

Fujitsu MSP Users

Fujitsu MSP users proceed with the installation steps beginning with Part 1: Basic Installation for Fujitsu MSP Systems in this chapter.

Hitachi VOS3 Users

Hitachi VOS3 users proceed with the installation steps beginning with Part 1: Basic Installation for Hitachi VOS3 Systems in this chapter.

Part 1: Basic Installation for z/OS and OS/390

This section provides step-by-step instructions you use to install a basic Unicenter CA-APAS configuration. You may wish to modify some of the steps for your particular installation.

Step 1. Create and Submit Initial Distribution Tape Extract Job

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

In this step, you create a JCL job stream to copy the INSTALL library from the Unicenter CA-APAS distribution tape.

The VOLSER of the distribution tape is

ASP*vvv*

where *vvv* is the current version, release and maintenance level. Be sure to check the tape label for the correct VOLSER.

Follow these steps to create the INSTALL library:

1. Create the following JCL, providing values for the entries that appear in italics, for example, *entry*.

```
//AINSINST JOB (acct info),'COPY INSTALL LIB',CLASS=x,MSGCLASS=y
//AINSSTP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//SYSUT3   DD UNIT=diskunit,SPACE=(TRK,(1,1))
//SYSUT4   DD UNIT=diskunit,SPACE=(TRK,(1,1))
//*
//TAPE     DD DSN=CA.APASVvvv.INSTALL,
//         LABEL=(2,SL),
//         UNIT=tapeunit,VOL=SER=ASPvvv,
//         DISP=(OLD,KEEP)
//DISK     DD DSN=hlq.mlq.APASVvvv.INSTALL,
//         DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120),
//         SPACE=(CYL,(1,1,10)),
//         UNIT=diskunit,VOL=SER=prodvol,
//         DISP=(NEW,CATLG,DELETE)
//SYSIN    DD  *,DCB=BLKSIZE=80
  COPY INDD=TAPE,OUTDD=DISK
/*
//
```

   Note: The LRECL and BLKSIZE in the DCB card can be modified to best suit your DASD environment.

2. Submit the job. If you receive a non-zero return code, correct the JCL and resubmit the job.

Step 2. Read AIREADME

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

Read the AIREADME member in the Unicenter CA-APAS INSTALL library created in Step 1 for additional information you may need for this installation and/or product usage.

Step 3. Modify the Unicenter CA-APAS Installation Edit Macro

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

We recommend that you use the edit macro member AIEDIT in the Unicenter CA-APAS INSTALL library to quickly and accurately make changes to the PDS members used to install Unicenter CA-APAS. You modify AIEDIT with the values entered on the Unicenter CA-APAS Installation Worksheet.

Follow these steps to modify AIEDIT.

1. Replace the rightmost parameters of each ISREDIT CHANGE macro with the corresponding values entered on the Unicenter CA-APAS Installation Worksheet.
2. Store AIEDIT in a library that is concatenated to the SYSPROC DD in your TSO log-on procedure.
3. Each time you edit an installation member, type AIEDIT on the TSO command line, and press Enter to replace the generic environment variables in the member with your site-specific specifications.

Step 4. Allocate and Load Product Libraries

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

Follow these steps to modify JCL member AIUNLOAD in the Unicenter CA-APAS INSTALL library to allocate and load the Unicenter CA-APAS product libraries and files.

1. Modify AIUNLOAD.

   Use the AIEDIT macro to change the values of the environment variables in the AIUNLOAD member in the Unicenter CA-APAS INSTALL library as specified on the Unicenter CA-APAS Installation Worksheet.

   Note: The LRECL and BLKSIZE in the DCB cards can be modified to best suit your DASD environment.

2. Submit the AIUNLOAD JCL.

   If you receive a non-zero return code, correct the JCL and resubmit the job. You may use AIDELETE in the Unicenter CA-APAS INSTALL library to delete any data sets allocated with AIUNLOAD.

Step 5. Verify the Basic Installation of Unicenter CA-APAS

Note: This step is strongly recommended if you are installing for the first time. If you are migrating from a previous release of Unicenter CA-APAS, this step is optional.

The objective of this step is to become familiar with the basic batch reporting capabilities of Unicenter CA-APAS by producing printed reports from various default Unicenter CA-APAS requests. This enables you to start producing performance information about your system sooner, and also makes the rest of the installation easier.

The Unicenter CA-APAS batch utility, APASENSU, reads Adabas Command Log data from DDCLOG and produces printed reports. DDCLOG can be either an Adabas Command Log file (CLOG) or a Unicenter CA-APAS COPY file created by Unicenter CA-APAS running under the Adabas User Exit 4.

For this verification step, we will use Adabas CLOG data.

Adabas Command Logs

The following Adabas ADARUN logging parameters must be in effect for the Adabas sessions to generate the Command Logs needed to process with APASENSU:

LOGGING=YES	is required
LOGCB=YES	is required

The Command Log read by APASENSU may be a sequential Command Log file (DDCLOG), or a dual or multiple Command Log file (DDCLOGRn). The dual or multiple Command Log files or the sequential Command Log file may be read while Adabas is running.

Unicenter CA-APAS Requests

The key to getting the information you want from Unicenter CA-APAS reports or other outputs is understanding how to write Unicenter CA-APAS request statements. Start by using the default requests from the Unicenter CA-APAS SOURCE library to observe their general appearance and the reports they produce.

Unicenter CA-APAS Batch Utility APASENSU

Follow these steps to modify the Unicenter CA-APAS batch utility JCL, JCLAPASB:

1. Use the AIEDIT macro to change the values of the environment variables in the JCLAPASB member in the SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
2. Submit the JCLAPASB JCL after having generated the necessary Adabas Command Log data.

Source member APSDFLT1 has default requests for basic reports.

Source member APSDFLT2 contains default requests for a variety of additional reports. These are specialized and usually not standard requests. They are provided to provide an example of the many different kinds of information Unicenter CA-APAS can develop.

After seeing the reports these requests produce, try tailoring these or your own original requests to specific performance issues at your site. The syntax for writing requests is in the *Unicenter CA-APAS Writing Requests* manual.

Note: Adabas Command Log files do not contain any Unicenter CA-APAS ACBX or Derived Field information. Therefore, any Unicenter CA-APAS ACBX fields, such as NAT-MOD-ID, coded in the default requests will be blank in the reports.

Part 1: Basic Installation Complete

This completes Part 1: Basic Installation. Proceed with Part 2: Install Unicenter CA-APAS Natural Interface and Data Collector installation steps in this chapter.

Part 1: Basic Installation for Fujitsu MSP Systems

This section provides step-by-step instructions you use to install a basic Unicenter CA-APAS configuration. You may wish to modify some of the steps for your particular installation.

Step 1. Create and Submit Initial Distribution Tape Extract Job

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

In this step, you create a JCL job stream to copy the first file, the INSTALL library, from the Unicenter CA-APAS distribution tape.

The VOLSER of the distribution tape is

ASP*vvv*

where *vvv* is the current version, release and maintenance level. Be sure to check the tape label for the correct VOLSER.

Follow these steps to create the INSTALL library:

1. Create the following JCL, providing values for the entries that appear in italics, for example, *entry*.

```
//AINSINST  JOB (acct info),'COPY INSTALL LIB',CLASS=x,MSGCLASS=y
//AINSSTP1  EXEC PGM=JSECOPY
//SYSPRINT  DD SYSOUT=*
//SYSUT3    DD UNIT=diskunit,SPACE=(TRK,(1,1))
//SYSUT4    DD UNIT=diskunit,SPACE=(TRK,(1,1))
//*
//TAPE      DD DSN=CA.APASVvvv.INSTALL,
//          LABEL=(2,SL,EXPDT=98000),
//          UNIT=tapeunit,VOL=SER=ASPvvv,
//          DISP=(OLD,KEEP)
//DISK      DD DSN=hlq.mlq.APASVvvv.INSTALL,
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120),
//          SPACE=(CYL,(1,1,10)),
//          UNIT=diskunit,VOL=SER=prodvol,
//          DISP=(NEW,CATLG,DELETE)
//SYSIN     DD  *,DCB=BLKSIZE=80
  COPY INDD=TAPE,OUTDD=DISK
//
```

   Note: The LRECL and BLKSIZE in the DCB card can be modified to best suit your DASD environment.

2. Submit the job. If you receive a non-zero return code, correct the JCL and resubmit the job.

Step 2. Read AIREADME

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

Read the AIREADME member in the Unicenter CA-APAS INSTALL library created in Step 1 for additional information you may need for this installation and/or product usage.

Step 3. Modify the Unicenter CA-APAS Installation Edit Macro

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

We recommend that you use the edit macro member AIEDIT in the Unicenter CA-APAS INSTALL library to quickly and accurately make changes to the PDS members used to install Unicenter CA-APAS. You modify AIEDIT with the values entered on the Unicenter CA-APAS Installation Worksheet.

Follow these steps to modify AIEDIT.

1. Replace the rightmost parameters of each ISREDIT CHANGE macro with the corresponding values entered on the Unicenter CA-APAS Installation Worksheet.
2. Store AIEDIT in a library that is concatenated to the SYSPROC DD in your TSO log-on procedure.
3. Each time you edit an installation member, type AIEDIT on the command line, and press Enter to replace the generic environment variables in the member with your site-specific specifications.

Step 4. Allocate and Load Product Libraries

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

Use the following steps to modify JCL member AIUNLD$F in the Unicenter CA-APAS INSTALL library to allocate and load the Unicenter CA-APAS product libraries and files in Fujitsu MSP environments.

1. Modify AIUNLD$F.

   Use the AIEDIT macro to change the values of the environment variables in the AIUNLD$F member in the Unicenter CA-APAS INSTALL library as specified on the Unicenter CA-APAS Installation Worksheet.

2. Submit the AIUNLD$F JCL.

   If you receive a non-zero return code, correct the JCL and resubmit the job. You may use AIDELETE in the Unicenter CA-APAS INSTALL library to delete any data sets allocated with AIUNLD$F.

Step 5. Verify the Basic Installation of Unicenter CA-APAS

Note: This step is strongly recommended if you are installing for the first time. If you are migrating from a previous release of Unicenter CA-APAS, this step is optional.

The objective of this step is to become familiar with the basic batch reporting capabilities of Unicenter CA-APAS by producing printed reports from various default Unicenter CA-APAS requests. This enables you to start producing performance information about your system sooner, and also makes the rest of the installation easier.

The Unicenter CA-APAS batch utility, APASENSU, reads Adabas Command Log data from DDCLOG and produces printed reports. DDCLOG can be either an Adabas Command Log file (CLOG) or a Unicenter CA-APAS COPY file created by Unicenter CA-APAS running under the Adabas User Exit 4.

For this verification step, we will use Adabas CLOG data.

Adabas Command Logs

The following Adabas ADARUN logging parameters must be in effect for the Adabas sessions to generate the Command Logs needed to process with APASENSU:

LOGGING=YES	is required
LOGCB=YES	is required

The Command Log read by APASENSU may be a sequential Command Log file (DDCLOG), or a dual or multiple Command Log file (DDCLOGRn). The dual or multiple Command Log files or the sequential Command Log file may be read while Adabas is running.

Unicenter CA-APAS Requests

The key to getting the information you want from Unicenter CA-APAS reports or other outputs is understanding how to write Unicenter CA-APAS request statements. Start by using the default requests from the Unicenter CA-APAS SOURCE library to observe their general appearance and the reports they produce.

Unicenter CA-APAS Batch Utility APASENSU

Follow these steps to modify the Unicenter CA-APAS batch utility JCL, JCLAPASB:

1. Use the AIEDIT macro to change the values of the environment variables in the JCLAPASB member in the SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
2. Submit the JCLAPASB JCL after having generated the necessary Adabas Command Log data.

Source member APSDFLT1 has default requests for basic reports.

Source member APSDFLT2 contains default requests for a variety of additional reports. These are specialized and usually not standard requests. They are provided to provide an example of the many different kinds of information Unicenter CA-APAS can develop.

After seeing the reports these requests produce, try tailoring these or your own original requests to specific performance issues at your site. The syntax for writing requests is in the *Unicenter CA-APAS Writing Requests* manual.

Note: Adabas Command Log files do not contain any Unicenter CA-APAS ACBX or Derived Field information. Therefore, any Unicenter CA-APAS ACBX fields, such as NAT-MOD-ID, coded in the default requests will be blank in the reports.

Part 1: Basic Installation Complete

This completes Part 1: Basic Installation. Proceed with Part 2: Install Unicenter CA-APAS Natural Interface and Data Collector installation steps in this chapter.

Part 1: Basic Installation for Hitachi VOS3 Systems

This section provides step-by-step instructions you use to install a basic Unicenter CA-APAS configuration. You may wish to modify some of the steps for your particular installation.

Step 1. Create and Submit Initial Distribution Tape Extract Job

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

In this step, you create a JCL job stream to copy the first file, the INSTALL library, from the Unicenter CA-APAS distribution tape.

The VOLSER of the distribution tape is

ASP*vvv*

where *vvv* is the current version, release and maintenance level. Be sure to check the tape label for the correct VOLSER.

Follow these steps to create the INSTALL library:

1. Create the following JCL, providing values for the entries that appear in italics, for example, *entry*.

```
//AINSINST  JOB (acct info),'COPY INSTALL LIB',CLASS=x,MSGCLASS=y
//AINSSTP1  EXEC PGM=JSPDCPY
//SYSPRINT  DD SYSOUT=*
//SYSUT3    DD UNIT=diskunit,SPACE=(TRK,(1,1))
//SYSUT4    DD UNIT=diskunit,SPACE=(TRK,(1,1))
//*
//TAPE      DD DSN=CA.APASVvvv.INSTALL,
//          LABEL=(2,SL,EXPDT=98000),
//          UNIT=tapeunit,VOL=SER=ASPvvv,
//          DISP=(OLD,KEEP)
//DISK      DD DSN=hlq.mlq.APASVvvv.INSTALL,
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120),
//          SPACE=(CYL,(1,1,10)),
//          UNIT=diskunit,VOL=SER=prodvol,
//          DISP=(NEW,CATLG,DELETE)
//SYSIN     DD  *,DCB=BLKSIZE=80
  COPY INDD=TAPE,OUTDD=DISK
//
```

   Note: The LRECL and BLKSIZE in the DCB card can be modified to best suit your DASD environment.

2. Submit the job. If you receive a non-zero return code, correct the JCL and resubmit the job.

Step 2. Read AIREADME

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

Read the AIREADME member in the Unicenter CA-APAS INSTALL library created in Step 1 for additional information you may need for this installation and/or product usage.

Step 3. Modify the Unicenter CA-APAS Installation Edit Macro

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

We recommend that you use the edit macro member AIEDIT in the Unicenter CA-APAS INSTALL library to quickly and accurately make changes to the PDS members used to install Unicenter CA-APAS. You modify AIEDIT with the values entered on the Unicenter CA-APAS Installation Worksheet.

Follow these steps to modify AIEDIT.

1. Replace the rightmost parameters of each ISREDIT CHANGE macro with the corresponding values entered on the Unicenter CA-APAS Installation Worksheet.
2. Store AIEDIT in a library that is concatenated to the SYSPROC DD in your TSO log-on procedure.
3. Each time you edit an installation member, type AIEDIT on the TSO command line, and press Enter to replace the generic environment variables in the member with your site-specific specifications.

Step 4. Allocate and Load Product Libraries

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

Use the following steps to modify JCL member AIUNLD$H in the Unicenter CA-APAS INSTALL library to allocate and load the Unicenter CA-APAS product libraries and files in Hitachi VOS3 environments.

1. Modify AIUNLD$H.

   Use the AIEDIT macro to change the values of the environment variables in the AIUNLD$H member in the Unicenter CA-APAS INSTALL library as specified on the Unicenter CA-APAS Installation Worksheet.

2. Submit the AIUNLD$H JCL.

   If you receive a non-zero return code, correct the JCL and resubmit the job. You may use AIDELETE in the Unicenter CA-APAS INSTALL library to delete any data sets allocated with AIUNLD$H.

3. Modify AILKED$H.

   Use the AIEDIT macro to change the values of the environment variables in the AILKED$H member in the Unicenter CA-APAS INSTALL library as specified on the Unicenter CA-APAS Installation Worksheet.

   Note: The BLKSIZE in the DCB cards can be modified to best suit your DASD environment.

4. Submit the AILKED$H JCL.

Step 5. Verify the Basic Installation of Unicenter CA-APAS

Note: This step is strongly recommended if you are installing for the first time. If you are migrating from a previous release of Unicenter CA-APAS, this step is optional.

The objective of this step is to become familiar with the basic batch reporting capabilities of Unicenter CA-APAS by producing printed reports from various default Unicenter CA-APAS requests. This enables you to start producing performance information about your system sooner, and also makes the rest of the installation easier.

The Unicenter CA-APAS batch utility, APASENSU, reads Adabas Command Log data from DDCLOG and produces printed reports. DDCLOG can be either an Adabas Command Log file (CLOG) or a Unicenter CA-APAS COPY file created by Unicenter CA-APAS running under the Adabas User Exit 4.

For this verification step, we will use Adabas CLOG data.

Adabas Command Logs

The following Adabas ADARUN logging parameters must be in effect for the Adabas sessions to generate the Command Logs needed to process with APASENSU:

LOGGING=YES	is required
LOGCB=YES	is required

The Command Log read by APASENSU may be a sequential Command Log file (DDCLOG), or a dual or multiple Command Log file (DDCLOGRn). The dual or multiple Command Log files or the sequential Command Log file may be read while Adabas is running.

Unicenter CA-APAS Requests

The key to getting the information you want from Unicenter CA-APAS reports or other outputs is understanding how to write Unicenter CA-APAS request statements. Start by using the default requests from the Unicenter CA-APAS SOURCE library to observe their general appearance and the reports they produce.

Unicenter CA-APAS Batch Utility APASENSU

Follow these steps to modify the Unicenter CA-APAS batch utility JCL, JCLAPASB:

1. Use the AIEDIT macro to change the values of the environment variables in the JCLAPASB member in the SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
2. Submit the JCLAPASB JCL after having generated the necessary Adabas Command Log data.

Source member APSDFLT1 has default requests for basic reports.

Source member APSDFLT2 contains default requests for a variety of additional reports. These are specialized and usually not standard requests. They are provided to provide an example of the many different kinds of information Unicenter CA-APAS can develop.

After seeing the reports these requests produce, try tailoring these or your own original requests to specific performance issues at your site. The syntax for writing requests is in the *Unicenter CA-APAS Writing Requests* guide.

Note: Adabas Command Log files do not contain any Unicenter CA-APAS ACBX or Derived Field information. Therefore, any Unicenter CA-APAS ACBX fields, such as NAT-MOD-ID, coded in the default requests will be blank in the reports.

Part 1: Basic Installation Complete

This completes Part 1: Basic Installation. Proceed with Part 2: Install Unicenter CA-APAS Natural Interface and Data Collector installation steps on the following page.

Part 2: Install Unicenter CA-APAS Natural Interface and Data Collector

This section provides step-by-step instructions on how to install the Unicenter CA-APAS Natural user interface component Insight and the APAS Data Collector component. You may wish to modify some of the steps for your particular installation.

IBM z/OS and OS/390 users, Fujitsu MSP users, and Hitachi VOS3 users must complete the following steps.

Step 1: Load Unicenter CA-APAS Natural Components

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

This version of Unicenter CA-APAS is for use with Natural V3.1 and higher.

Unicenter CA-APAS contains an online Natural interface component called CA-Insight. This Natural interface adds the capability for dynamic, online, real-time reporting functionality.

Load the CA-Insight DDMs, source, and object members into the appropriate Natural System files under the INSIGHT library-id or some other library-id of your choice. The program DGRLDNAT in the Unicenter CA-APAS LOAD library is used to load the DDMs, source, and object members.

Any source or object members already in the library are replaced if their names match those members unloaded from the distribution tape. All other old members in the library are unaffected.

Follow these steps to load the Insight Natural DDMs, source, and object members:

1. If you are using Natural security, you must define the CA-Insight application id. This is the value of the INSLIBID variable, as defined in the Installation Worksheet.
2. Use the AIEDIT macro to change the values of the environment variables in the LDINSNAT member in the Unicenter CA-APAS SOURCE library.
3. Submit the LDINSNAT JCL to load the Natural DDMs, source, and object members. If you receive a non-zero return code, correct the JCL and resubmit the job.

4. Read the comments in the Natural source member INSIGHT regarding optional restrictions on which databases may be referenced and which Unicenter CA-APAS functions may be used. If desired, edit and modify the source member then STOW the program.
5. Read the comments in the Natural source member INREQSEC regarding security options. If desired, edit and modify the source member then STOW the program.
6. Edit the Natural source member CAIIMENU. This is an optional high-level menu. Update the library-id you have chosen for INSIGHT. Catalogue CAIIMENU in the SYSTEM library to make it available to all applications.
7. Move all the Unicenter CA-APAS Natural object members to a secured Natural library where unauthorized users cannot access them.
8. Because Unicenter CA-APAS uses a large global data area, an increase in the ESIZE value may be required. An ESIZE value of 48K should be adequate, however, a lower value may suffice.
9. When executing Unicenter CA-APAS, Natural's input delimiter (ID) parameter should not be set to a colon, :, as this causes syntax errors in generated requests from Trace, Summary and Exception selections of the Unicenter CA-APAS Main Menu screen.

Step 2: Install the Natural Nucleus Subroutine

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

Information on the general procedure for installing subroutines for use under Natural is given in Software AG's *Natural Operations Manual*.

The Unicenter CA-APAS subroutine NATINS from the Unicenter CA-APAS LOAD library must be made available for use under Natural as a CSTATIC subroutine. Installation as a static subroutine involves an assembly and link edit for each copy of Natural that is used to invoke the CA-Insight Natural user interface component of Unicenter CA-APAS.

Install NATINS

You can install NATINS in a shared or non-shared nucleus environment. Using the appropriate JCL members in the Natural JOBS PDS data set, generate a new Natural nucleus for each environment applicable to your site, for example, batch, TSO, CICS, COM-PLETE, IMS.

Approach 1: Non-Shared Nucleus Environment

Execute the following steps to install NATINS in a non-shared nucleus environment.

1. Add NATINS to the list of subroutine names in the CSTATIC parameter of the NATPARM source module.

   Do **not** include NATINS in the link edit step of the NATPARM. This results in an UNRESOLVED error for NATINS. This is okay.

2. Modify the link edit JCL of the Natural nucleus to include the new NATPARM module created in the previous step. Immediately before the INCLUDE for NATLAST, add an INCLUDE for NATINS. Add the appropriate DD statement for the Unicenter CA-APAS LOAD library to resolve the INCLUDE of NATINS.

3. Execute the Natural JOBS JCL to assemble and link edit the revised version of NATPARM and link edit a new Natural nucleus.

Approach 2: Shared Nucleus Environment

Installation of NATINS in a shared nucleus environment requires establishing NATINS as a CSTATIC routine in the NATPARM modules for the shared nucleus and each of the environment dependent nuclei (TSO, batch, CICS, etc.) but NATINS is only included in the link edit of the shared nucleus.

Execute the following steps to install NATINS in a shared nucleus environment.

1. Add NATINS to the list of subroutine names in the CSTATIC parameter of the NATPARM source module for the shared nucleus.

   If a NATPARM module for the shared nucleus does not exist, you need to create one that contains at least the CSTATIC parameter. See sample shared NATPARM member, SHRPARMS, in the Unicenter CA-APAS SOURCE library.

   Assemble and link edit the new shared nucleus NATPARM.

2. Modify the link edit JCL of the shared Natural nucleus to INCLUDE the new shared NATPARM module created in the previous step if not already present. Also add an INCLUDE for NATINS before the INCLUDE for NATLAST. Add the appropriate DD statement for the Unicenter CA-APAS LOAD library to resolve the INCLUDE of NATINS.

3. Generate a new shared Natural nucleus by executing the appropriate link edit JCL in the Natural JOBS library.

4. Add NATINS to the list of subroutine names in the CSTATIC parameter of the NATPARM source module for each of the environment dependent nuclei, that is, batch, CICS, TSO, COM-PLETE, IMS, that is going to access Unicenter CA-APAS.

5. Modify the link edit JCL of the environment dependent Natural nuclei to include the new environment dependent NATPARM module created in the previous step, but **do not** include NATINS in the final link edit of the environment dependent nuclei. This results in an UNRESOLVED error for NATINS in the final link edit step for the environment dependant nuclei. This is okay.

6. Generate new environment dependent Natural nuclei by executing the appropriate JCL in the Natural JOBS library to assemble and link edit the revised version of NATPARM and link edit new environment dependent Natural nuclei.

Step 3: Add the Data Collector to MPM Execution

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

Multiple Adabas User Exit 4 Routines

If you intend to run the Unicenter CA-APAS User Exit 4 routine concurrently with another User Exit 4 routine, we suggest that you proceed in two stages.

1. First install Unicenter CA-APAS without the local User Exit 4 routine following the instructions given in this step.
2. After successful testing of Unicenter CA-APAS User Exit 4 alone, examine the member UE4EXIT in the Unicenter CA-APAS SOURCE library. Follow the instructions in that member to have the Unicenter CA-APAS User Exit 4 routine call another User Exit 4 routine.

Note: If the local UEX4 routines use any of the Unicenter CA-APAS DSECTs such as UIDATA, DERDEFA or DERDEFC, RECDEFA or RECDEFC, then they need to be reassembled using the new Unicenter CA-APAS SOURCE library.

Authorized Libraries

Most sites execute Adabas out of an authorized library. Reasons for doing so are to allow Adabas to be made non-swappable or to enable EXCPVR. When these installations add the Data Collector to their MPM, special care must be taken with the Unicenter CA-APAS load modules.

Approach 1: Authorize the Unicenter CA-APAS Load Library

The first approach is to authorize the Unicenter CA-APAS LOAD library downloaded from the distribution tape, and then concatenate this library to the other libraries specified in the MPM JCL's STEPLIB DD statement.

Approach 2: Move Modules Into an Existing Authorized Library

The second approach is to move just the necessary modules to execute Unicenter CA-APAS in the MPM from the Unicenter CA-APAS LOAD library downloaded from the distribution tape into an existing authorized library. The names of modules that must be moved are listed below. Before choosing this approach, you should consider the long-term effects on maintenance.

- Whenever a new Unicenter CA-APAS LOAD library is distributed, you must remember to move the necessary modules into the authorized library.

- Since the modules of different releases are usually incompatible, failure to replace one or more modules can result in unpredictable results. This directly affects the reliability of the Data Collector.

  The following modules must be moved.

ADRIVERM	DBGGLOBS	UE4ATINM
ADRIVSUB	DBGIOR5	UE4INSTM
AMAINM	DBGNUC	UE4MAINM
APASINTM	DGIORM7M	UE4PROCM
APASUEX4	DUALEXM	
ATTACHEM	READCMDM	

Note: Our experience shows that the second approach is error-prone, where the first approach is not. Therefore, we strongly recommend that you use the first approach.

Required MPM Modifications

The JCLINSIT member in the Unicenter CA-APAS SOURCE library is provided to show the things that must be added or changed in your standard MPM JCL when you execute an MPM session with the Data Collector supporting Unicenter CA-APAS.

Modifications include:

- ADARUN parameters
- STEPLIB concatenation
- Region size
- Adabas Command Log data set
- Unicenter CA-APAS DD statements
- Unicenter CA-APAS control cards

Use the AIEDIT macro to change the values of the environment variables in the JCLINSIT member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.

As each of the necessary MPM modifications is discussed in detail below, use JCLINSIT to assist with the modifications to your MPM JCL.

ADARUN Parameters

The ADARUN parameters shown below are required to properly specify Adabas command logging and to enable proper communication between Unicenter CA-APAS components and Adabas.

```
ADARUN LOGGING=YES
ADARUN LOGCB=YES
ADARUN LOGxx=YES          (if reporting of various buffers is desired)
ADARUN LU=35750           (must be increased to 35750 or higher)
ADARUN UEX4=APASUEX4      (the Unicenter CA-APAS user exit)
```

You may need to modify other ADARUN parameters to control storage use by Adabas. These considerations are discussed in the following section, Region Size.

Refer to the "ADARUN Parameters" in JCLINSIT.

Region Size

Unicenter CA-APAS should have at least 500K of virtual storage available after Adabas has completed its storage allocation. Verify that this much virtual storage is unused in the region and increase the REGION size parameter accordingly if necessary.

Make sure that the total space for LBP, LWP, and LFP does not preclude leaving sufficient virtual storage for Unicenter CA-APAS. In particular, make sure that the ADARUN parameter LBP is not larger than the buffer pool you really need for executing the MPM.

Some sites set LBP excessively high, recognizing that Adabas executes with less if the full specified amount is not available. Excessive LBP values may cause Adabas to use virtual storage that you intended for use by Unicenter CA-APAS. If Adabas has not left sufficient virtual storage for Unicenter CA-APAS, the MPM job fails during Unicenter CA-APAS initialization. Detailed information about virtual storage requirements is given in the *Unicenter CA-APAS Systems Guide*.

The maximum amount of space, not including the code, used during the MPM session by the Data Collector is displayed in a termination message DBG98003I written to DBGPRINT. If Unicenter CA-APAS cannot obtain the virtual storage needed at any time during the session, various messages are written to DBGPRINT.

Adabas Command Log Data Set

For Unicenter CA-APAS to be invoked by Adabas the Adabas Command Log data set MUST be allocated; it cannot be a DUMMY data set.

Note: If DD DUMMY is used, an ADAL05 I/O error could result and abnormally terminate the MPM.

If you do not intend to have Adabas write Command Logs, a single DDLOG Command Log data set of one track is sufficient.

If you want Adabas to write Command Logs, use standard size DDLOG or DDCLOGRn dual or multiple data sets.

Refer to "Adabas Command Log Data Sets" in JCLINSIT.

Unicenter CA-APAS DD Statements

A couple of Unicenter CA-APAS DD statements are required for input of control statements and output of messages. Also DD statements are needed for receiving printed reports and output data requested in Unicenter CA-APAS requests.

DBGIN is required for input of Unicenter CA-APAS control statements. See the next section, Unicenter CA-APAS Control Cards.

DBGPRINT is required for output of Unicenter CA-APAS messages and other messages.

Other DD statements are needed for ddnames specified in PRINT TO and/or OUTPUT-FILE parameters of Unicenter CA-APAS requests.

See DD Statements For Unicenter CA-APAS in JCLINSIT.

Unicenter CA-APAS Control Cards

Sample Unicenter CA-APAS control cards are shown in the Unicenter CA-APAS SOURCE library members APSDFLT0, APSDFLT1, and APSDFLT2.

Use the AIEDIT macro to change the environment variables in APSDFLT0.

If you do **not** want Adabas to write Command Log records to the Adabas Command Log data set, the Unicenter CA-APAS GLOBALS control card input stream (DBGIN) should include:

```
GLOBALS
LOG-DEFAULT=OFF        /*  Suppress writing of Adabas Command Logs
ENSU=YES               /*  Enable Unicenter CA-APAS Data Collector
ENSU-BUFFER=48000      /*  Size of the Data Collector buffer
. . .                  /*  Set appropriate GLOBALS parameters for your site
;
```

If you **do** want Adabas to write Command Log records to the Adabas Command Log data sets, the Unicenter CA-APAS GLOBALS control card input stream (DBGIN) should include:

```
GLOBALS
LOG-DEFAULT=ON         /*   Enable writing of Adabas Command Logs
ENSU=YES               /*   Enable Unicenter CA-APAS Data Collector
ENSU-BUFFER=48000      /*   Size of the Data Collector buffer
. . .                  /*   Set appropriate GLOBALS parameters for your site
;
```

Further information about all Unicenter CA-APAS control statements is given in the *Unicenter CA-APAS Writing Requests* manual.

Step 4: Control Card Syntax Checking

Note: This step is strongly recommended if you are installing for the first time. If you are migrating from a previous release of Unicenter CA-APAS, this step is optional.

The Unicenter CA-APAS batch utility program APASENSU can be used to check control cards prior to using them with the MPM, thus avoiding aborted MPM runs. APASENSU allows all the Unicenter CA-APAS control statements and requests to be syntax checked including the presence of all the DD statements referenced to be verified. Neither Adabas itself nor the Adabas Command Logs are accessed during a syntax check execution.

Follow these steps to modify the APASENSU batch utility JCL, member JCLAPASB in the SOURCE library, to perform syntax checking:

1. Use the AIEDIT macro to change the values of the environment variables in the JCLAPASB member.
2. For syntax checking the DD statement for DDCLOG must be changed from the actual Adabas Command Log data set to DUMMY.
3. Add the appropriate DD statements for the PRINT-TO and/or OUTPUT-FILE ddnames specified in the Unicenter CA-APAS requests being syntax checked.
4. Submit the JCLAPASB member.
5. Check the output for messages indicating successful syntax processing of control cards and request statements.

Step 5: Execute the MPM with the Data Collector

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

Warning! If Unicenter CA-APAS detects errors in its control card input stream (DBGIN) **and** you specified IGNORE-INIT-ERRORS=NO in the GLOBALS statements, Unicenter CA-APAS abnormally terminates the MPM with a U0026. This is done to avoid having an MPM session that does not produce the reports and output that you want.

Starting the MPM and Unicenter CA-APAS

Start the new MPM session including the necessary ADARUN parameter changes, increase in region size, and additional DD statements.

Warning! Do NOT turn Adabas command logging off during the MPM session. The Data Collector depends on Adabas Command Log record images being passed to User Exit 4. If you turn off Adabas command logging during an MPM session, you halt all Data Collector processing resulting in gaps in reports and collected data. Also when Adabas command logging is off, Unicenter CA-APAS reports the Data Collector inactive for that MPM.

Step 6: Verify Unicenter CA-APAS Natural Interface and the Data Collector

Note: This step is not required but is recommended whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

Verify Unicenter CA-APAS

Invoke Natural from a terminal, log on to the INSIGHT library or other id you may have used in the LDINSNAT job stream and execute the command INSIGHT.

The INSIGHT Copyright / logo screen is displayed:

```
              ADABAS PERFORMANCE ANALYSIS SYSTEM (CA-APAS)
          COPYRIGHT 2003 COMPUTER ASSOCIATES INTERNATIONAL, INC.
   ALL RIGHTS RESERVED.  CONTAINS TRADE SECRETS AND CONFIDENTIAL PROPRIETARY
              INFORMATION OF COMPUTER ASSOCIATES INTERNATIONAL, INC.
  REVERSE ENGINEERING PROHIBITED. COPYRIGHT NOTICE DOES NOT IMPLY PUBLICATION.


IIII     NNN     NN     SSSSSSS     IIII     GGGGGGGG     HH    HH     TTTTTTTT
 II      NNNN    NN     SS           II      GG           HH    HH        TT
 II      NN NN   NN     SS           II      GG           HH    HH        TT
 II      NN  NN  NN     SSSSSSS      II      GG           HHHHHHHH        TT
 II      NN   NN NN          SS      II      GG   GGGG    HH    HH        TT
 II      NN    NNNN          SS      II      GG    GG     HH    HH        TT
IIII     NN     NNN     SSSSSSS     IIII     GGGGGGGG     HH    HH        TT

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I N T E R A C T I V E   A D A B A S   P E R F O R M A N C E   M O N I T O R
--------------------------------------------------------------------------------

             CA-INSIGHT V4.01.01 FOR ADABAS V7 & NATURAL V3

CMD: ________ REQ: ________ DBID: ____0 SMPID: _0 > USE PF KEY, CMD, OR ENTER <
PFK:  1=HELP  3=MENU  4=SELECT  5=SHOW  6=DISPLAY  9=SNAP  12=REQMGT INSTART
```
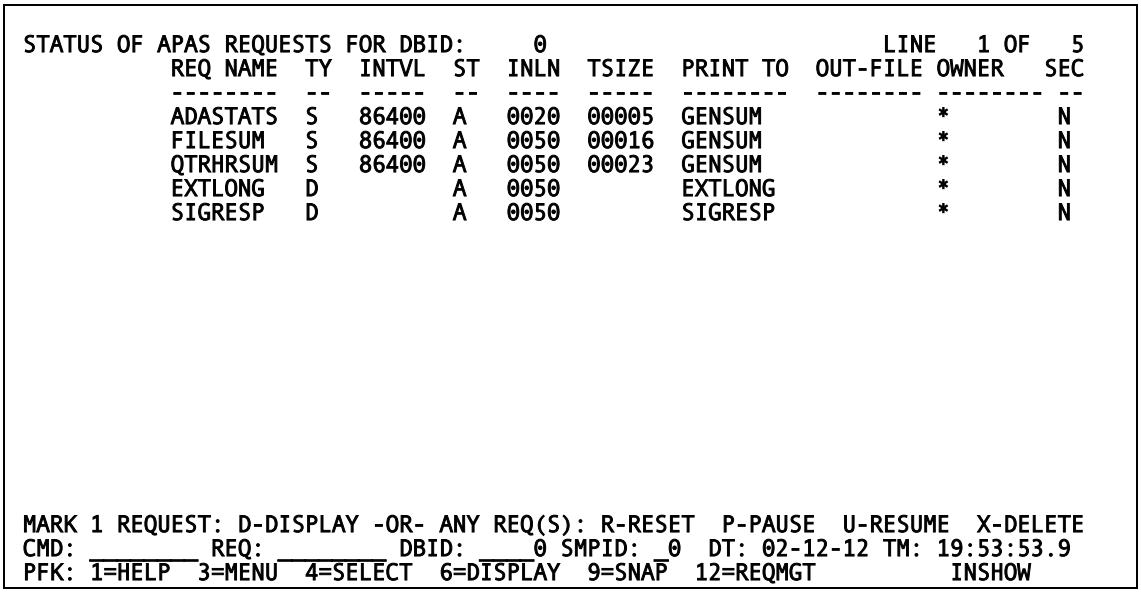

If this Unicenter CA-APAS logo screen is displayed, you have successfully installed and accessed the Unicenter CA-APAS Natural User Interface component.

Verify the Data Collector

Specify the DBID of the MPM with the Data Collector attached in the DBID field and press PF5 to display the SHOW screen. The Unicenter CA-APAS requests specified in DBGIN are listed.



If this screen displays the requests initiated via DBGIN at start up, you have successfully installed the Data Collector.

Part 2: Install Unicenter CA-APAS Natural Interface and Data Collector Complete

This completes Part 2:Install Unicenter CA-APAS Natural Interface and Data Collector. Proceed with Part 3: Install the Unicenter CA-APAS ACBX Facility installation steps on the following page.

Part 3: Install the Unicenter CA-APAS ACBX Facility

The ACBX facility makes it possible for Unicenter CA-APAS to capture and derive several data items from the application program region and makes them available to the Adabas User Exit 4 for inclusion in batch or online reporting.

The ACBX facility is optional, and these extra fields are not required, but we recommend that you use it because the additional data items are very useful in performance analysis, particularly for Natural applications.

General Considerations

This section provides step-by-step instructions you need to install the ACBX facility. Installing the ACBX facility requires linking Unicenter CA-APAS programs with Adabas link routines. You need to choose the steps appropriate for the environments at your site.

Batch Reporting

The ACBX fields are not present in standard Adabas Command Log files. The ACBX fields, however, are present on Unicenter CA-APAS COPY files and are available to Unicenter CA-APAS requests and to user written subroutines in the Unicenter CA-APAS derived fields area.

Natural Users

The ACBX facility extracts special information for Natural programs, for example, Natural log-on and program name. This information is collected from Natural work areas when the ACBX facility recognizes that the Adabas command is coming from Natural. Sites that execute Natural programs which call subroutines written in languages other than Natural which, in turn, issue Adabas commands should note the following:

- For Adabas calls issued from non-Natural subroutines, the Adabas Control Block byte ACB+1 must not contain the values N, E, or 5. Addressing or protection errors would probably occur.
- Natural ACBX fields, such as NAT-MOD-ID, are not reported for these calls.

ACBX Methodology

The ACBX facility uses the standard UEXITB exit from the Adabas link routines.

If your site already uses link routine exit UEXITB, read appendix "Link Module Exit Routines" in the *Unicenter CA-APAS Systems Guide* before proceeding. Use of multiple exit routines is supported but must be carefully coordinated as described in the appendix.

Troubleshooting

If the ACBX-derived fields are not reported after you have done all of the ACBX installation steps described in this section, check for the following possible causes:

- A non-ACBX interface module still exists in one or more load libraries and is still being used by some programs.
- Programs are physically link edited with a non-ACBX interface module.
- If you have supplied a UEXITB routine in addition to the one provided with Unicenter CA-APAS, verify that this routine conforms to the conventions described in the appendix "Link Module Exit Routines" in the *Unicenter CA-APAS Systems Guide*.

IBM z/OS and OS/390 Users

IBM z/OS and OS/390 users proceed with the installation steps beginning with z/OS and OS/390 Batch and TSO Installation on the following page.

Fujitsu MSP Users

Fujitsu MSP users proceed with the installation steps beginning with Fujitsu MSP Batch Installation in this chapter.

Hitachi VOS3 Users

Hitachi VOS3 users proceed with the installation steps beginning with Hitachi VOS3 Batch Installation in this chapter.

z/OS and OS/390 Batch and TSO Installation

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

The Unicenter CA-APAS UEXITB process for ADALNK consists of three modules: DBGDRIVK, DBGSTACK, and DBGLNK5.

Follow these steps to modify the Adabas link routine, ADALNK, and install the Unicenter CA-APAS UEXITB modules:

1. Examine DBGDRIVK in the Unicenter CA-APAS SOURCE library. It explains an assembly option that allows a site to control whether the UINFO data area is cleared between each Adabas call or not. The default is to clear UINFO each time before passing it to the UEXB link routines listed in DBGSTACK.

   If you do not want to change the default, proceed to Step 4.
2. Use the AIEDIT macro to change the values of the environment variables in the ASMDRIVK member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
3. Submit the ASMDRIVK job to assemble and link edit DBGDRIVK.
4. Examine DBGLNK5 in the Unicenter CA-APAS SOURCE library. It explains some assembly options that allow a site to control the information that is collected and passed to the Unicenter CA-APAS Data Collector.
5. Use the AIEDIT macro to change the values of the environment variables in the ASMLNK5 member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
6. Submit the ASMLNK5 job to assemble and link edit DBGLNK5.
7. Modify the Software AG source member ADALNK, setting the value of LNUINFO to 232 (decimal). This provides a 112-byte User Information Data Area for DBGLNK5, no work area for DBGLNK5, and the 120-byte work area required by DBGDRIVK.
8. Assemble and link edit ADALNK using the Software AG "Installing Adabas with Batch / TSO" installation instructions.
9. Use the AIEDIT macro to change the values of the environment variables in the LNKLNK5 member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
10. Submit the LNKLNK5 job to link edit ADALNK with the DBGDRIVK, DBGSTACK, and DBGLNK5 UEXITB modules.
11. If the new ADALNK module is link edited into the Unicenter CA-APAS LOAD library, then the Unicenter CA-APAS LOAD library must be ahead of the Adabas load library in the STEPLIB concatenation for user batch jobs calling Adabas.

    For TSO, make sure that the ACBX version of ADALNK is put into the load library that is referenced in CLISTS for Adabas users.

Verify Batch and/or TSO ACBX

Use the Unicenter CA-APAS request ACBXVRFY to verify that the ACBX facility is working correctly for batch and/or TSO environments.

Start the ACBXVRFY request:

1. Invoke Natural from a terminal and logon to the Unicenter CA-APAS Natural library.
2. Start the Unicenter CA-APAS request ACBXVRFY by entering START in the CMD field and ACBXVRFY in the REQ field and pressing Enter.

To verify TSO:

1. Logon to Unicenter CA-APAS from TSO using the appropriate CLIST.
2. Press PF5 to display the SHOW screen.
3. Display the request ACBXVRFY.

The USER-TYPE field should contain TSO and NAT-MOD-ID should contain the Unicenter CA-APAS Natural library name and Natural program names like INSHOW.

If the USER-TYPE field is blank, the ACBX facility is not installed properly. Review the installation steps and the troubleshooting tips.

To verify batch:

1. Run a batch job that accesses the database that has the Data Collector attached, making sure that the batch job uses the ACBX version of ADALNK.
2. Logon to Unicenter CA-APAS and display ACBXVRFY by entering DI in the CMD field and ACBXVRFY in the REQ field and pressing Enter.

The USER-TYPE field should contain BT. The NAT-MOD-ID field may or may not contain information depending on whether the batch program was a Natural program or not.

If the USER-TYPE field is blank, the ACBX facility is not installed properly. Review the installation steps and the troubleshooting tips.

CICS Installation

Note: CICS users wishing to collect ACBX data need to perform this step whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

The Unicenter CA-APAS UEXITB process for the Adabas link routine for CICS consists of three modules: DBGDRIVC, DBGSTACC, and DBGLNCxx, which is CICS specific, see below.

Use the following table to determine the appropriate Unicenter CA-APAS UEXITB link routine module, assembly, and link edit JCL source members to use during the installation process.

If your CICS version is	Use the source library members
CICS V4.1	DBGLNC41, ASMLNC41, LNKLNC41
CICS TS V1.x and V2.x	DBGLNCTS, ASMLNCTS, LNKLNCTS

ADATRUE Users

Those sites wanting to use the Adabas task-related user exit should examine the ADATRU22, ADATRU23, and ADATRU31 source library members for instructions and modifications necessary for running the ACBX facility in an ADATRUE environment.

ADATRU22 are the instructions and modifications required for running in a Natural 2.2 environment.

ADATRU23 are the instructions and modifications required for running in a Natural 2.3 environment.

ADATRU31 are the instructions and modifications required for running in a Natural 3.1 environment.

TMON and Omegamon Users

Those sites wanting to use the UEXITB routine supplied by ASG (formerly Landmark Systems) should examine source member TMONUEXB before proceeding.

Those sites wanting to use the UEXITB routine supplied by Candle should examine source member OMEGUEXB before proceeding.

Installing the Command-Level ACBX Facility

For CICS version 4.1 and CICS Transaction Server, use the following steps:

1. Examine DBGDRIVC in the Unicenter CA-APAS SOURCE library. It explains an assembly option that allows a site to control whether the UINFO data area is cleared between each Adabas call or not. The default is to clear UINFO each time before passing it to the UEXB link routines listed in DBGSTACC.

   If you do not want to change the default, proceed to Step 4.

2. Use the AIEDIT macro to change the values of the environment variables in the ASMDRIVC member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
3. Submit the ASMDRIVC job to assemble and link edit DBGDRIVC.
4. Examine the appropriate DBGLNCxx source member for the version of CICS. It explains some assembly options that allow a site to control the information that is collected and passed to Unicenter CA-APAS Data Collector.
5. Use the AIEDIT macro to change the values of the environment variables specified on the Unicenter CA-APAS Installation Worksheet in the appropriate ASMLNCxx JCL source member for the version of CICS.
6. Submit the ASMLNCxx job to assemble and link edit DBGLNCxx.
7. Modify the Software AG ADAGSET parameters in LNKOLSC to set the following:

&LUINFO to 616 (decimal).	This provides a 112-byte User Information Data Area for DBGLNCxx, a 384-byte work area for DBGLNCxx and the 120-byte work area required by DBGDRIVC.
&LUSAVE to 72 (decimal).	Specify the size for the register save area to be used by UEXITB. This value should be 72 bytes or higher.

8. Assemble and link edit LNKOLSC using the Software AG "Installing the CICS Command-Level Link Components" installation instructions.
9. Use the AIEDIT macro to change the values of the environment variables specified on the Unicenter CA-APAS Installation Worksheet in the appropriate LNKLNCxx JCL source member for the version of CICS.
10. Submit the LNKLNCxx job to link edit the DBGDRIVC, DBGSTACC, and DBGLNCxx UEXITB modules with the Software AG link modules, LNKOLSC and LNKOLM, to create a new Adabas link routine module.
11. If the new Adabas module is link edited into the Unicenter CA-APAS LOAD library, then the Unicenter CA-APAS LOAD library must be ahead of the Adabas load library in the CICS STEPLIB concatenation.

Verify CICS ACBX

Use the Unicenter CA-APAS request ACBXVRFY to verify the ACBX facility is working correctly for CICS environments.

1. The Adabas link routine is a resident program; therefore, CICS must be recycled before the new ACBX version of the Adabas link routine is executed.
2. Invoke Natural from a terminal logged onto the CICS being tested.

   If this is successful, it verifies that the Adabas calling mechanism is still functioning. If this fails, the most likely cause is an error in the changes to LNKOLSC or ADAGSET or a failure to modify local UEXITB routines to conform to the Unicenter CA-APAS conventions described in the appendix "Link Module Exit Routines" in the *Unicenter CA-APAS Systems Guide*.
3. Logon to the Unicenter CA-APAS Natural library and start the Unicenter CA-APAS request ACBXVRFY by entering START in the CMD field, ACBXVRFY in the REQ field and pressing Enter.
4. Press PF5 to display the SHOW screen.
5. Display the request ACBXVRFY.

The USER-TYPE field should contain TP and NAT-MOD-ID should contain the Unicenter CA-APAS Natural library name and Natural program names like INSHOW.

If the USER-TYPE and NAT-MOD-ID fields are blank, the probable cause is that a non-ACBX version of the Adabas link routine module is being used instead of the ACBX version that was intended. Search for modules named ADABAS in all libraries concatenated ahead of the one that contains the ACBX version. Rename any that are found and retest the system.

Another possible cause may be the failure of a local supplied UEXITB link module exit to conform to the conventions described in the appendix "Link Module Exit Routines" in the *Unicenter CA-APAS Systems Guide*.

Com-Plete Installation

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

The Unicenter CA-APAS UEXITB process for ADALCO consists of three modules: DBGDRIVT, DBGSTACT, and DBGLNK5T.

Follow these steps to modify the Com-Plete Adabas link routine, ADALCO, and install the Unicenter CA-APAS UEXITB modules:

1. Examine DBGDRIVT in the Unicenter CA-APAS SOURCE library. It explains an assembly option that allows a site to control whether the UINFO data area is cleared between each Adabas call or not. The default is to clear UINFO each time before passing it to the UEXB link routines listed in DBGSTACT.

   If you do not want to change the default, proceed to Step 4.
2. Use the AIEDIT macro to change the values of the environment variables in the ASMDRIVT member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
3. Submit the ASMDRIVT job to assemble and link edit DBGDRIVT.
4. Examine the DBGLNK5T source member in the Unicenter CA-APAS SOURCE library. It explains some assembly options that allow a site to control the information that is collected and passed to Unicenter CA-APAS Data Collector.
5. Use the AIEDIT macro to change the values of the environment variables in the ASMLNK5T member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet
6. Submit the ASMLNK5T job to assemble and link edit DBGLNK5T.
7. Modify the Software AG source member ADALCO setting the value of LNUINFO to 248 (decimal). This provides a 112-byte User Information Data Area for DBGLNK5T, a 16-byte work area for DBGLNK5T, and the 120-byte work area required by DBGDRIVT.
8. Assemble and link edit ADALCO using the Software AG "Installing Adabas with Com-Plete" installation instructions.
9. Use the AIEDIT macro to change the values of the environment variables in the LNKLNK5T member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
10. Submit the LNKLNK5T job to link edits ADALCO with the DBGDRIVT, DBGSTACT, and DBGLNK5T UEXITB modules.
11. If the new ADALCO module is link edited into the Unicenter CA-APAS LOAD library, then the Unicenter CA-APAS LOAD library must be ahead of the Adabas load library in the Com-Plete STEPLIB concatenation.

Verify Com-Plete ACBX

Use the Unicenter CA-APAS request ACBXVRFY to verify that the ACBX facility is working correctly for Com-Plete environments.

1. The Adabas link routine is a resident program therefore Com-Plete must be recycled before the new ACBX version of the Adabas link routine is executed.
2. Invoke Natural from a terminal logged onto the Com-Plete being tested.

   Note: If this is successful, it verifies that the Adabas calling mechanism is still functioning. If this fails, the most likely cause is an error in the changes to ADALCO or a failure to modify local UEXITB routines to conform to the Unicenter CA-APAS conventions described in the appendix "Link Module Exit Routines" in the *Unicenter CA-APAS Systems Guide*.
3. Logon to the Unicenter CA-APAS Natural library and start the Unicenter CA-APAS request ACBXVRFY by entering START in the CMD field, ACBXVRFY in the REQ field and pressing Enter.
4. Press PF5 to display the SHOW screen.
5. Display the request ACBXVRFY.

The USER-TYPE field should contain TP and NAT-MOD-ID should contain the Unicenter CA-APAS Natural library name and Natural program names like INSHOW.

If the USER-TYPE and NAT-MOD-ID fields are blank, the probable cause is that a non-ACBX version of the Adabas link routine module is being used instead of the ACBX version that was intended. Search all libraries concatenated ahead of the one that contains the ACBX version and look for any modules named Adabas; rename any that are found and retest the system.

IMS/DC Installation

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

The Unicenter CA-APAS UEXITB process for ADALNI consists of three modules: DBGDRIVI, DBGSTACI, and DBGLNI5.

Follow these steps to modify the IMS/DC Adabas link routine, ADALNI, and install the Unicenter CA-APAS UEXITB modules:

1. Examine DBGDRIVI in the Unicenter CA-APAS SOURCE library. It explains an assembly option that allows a site to control whether the UINFO data area is cleared between each Adabas call or not. The default is to clear UINFO each time before passing it to the UEXB link routines listed in DBGSTACI.

   If you do not want to change the default, proceed to Step 4.
2. Use the AIEDIT macro to change the values of the environment variables in the ASMDRIVI member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
3. Submit the ASMDRIVI job to assemble and link edit DBGDRIVI.
4. Examine the DBGLNI5 source member in the Unicenter CA-APAS SOURCE library. It explains some assembly options that allow a site to control the information that is collected and passed to Unicenter CA-APAS Data Collector.
5. Use the AIEDIT macro to change the values of the environment variables in the ASMLNI member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet
6. Submit the ASMLNI job to assemble and link edit DBGLNI5.
7. Modify the Software AG source member ADALNI setting the value of LNUINFO to 232 (decimal). This provides a 112-byte User Information Data Area for DBGLNI5, no work area for DBGLNI5, and the 120-byte work area required by DBGDRIVI.
8. Assemble and link edit ADALNI using Software AG “Installing Adabas with IMS” installation instructions.
9. Use the AIEDIT macro to change the values of the environment variables in the LNKLNI member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
10. Submit the LNKLNI job to link edit ADALNI with the DBGDRIVI, DBGSTACI, and DBGLNI5 UEXITB modules.
11. If the new ADALNI module is link edited into the Unicenter CA-APAS LOAD library, then the Unicenter CA-APAS LOAD library must be ahead of the Adabas load library in the IMS/DC STEPLIB concatenation.

Verify IMS/DC ACBX

Use the Unicenter CA-APAS request ACBXVRFY to verify that the ACBX facility is working correctly for IMS/DC environments.

1. The Adabas link routine is a resident program therefore IMS/DC must be recycled before the new ACBX version of the Adabas link routine is executed.
2. Invoke Natural from a terminal logged onto the IMS/DC being tested.

   Note: If this is successful, it verifies that the Adabas calling mechanism is still functioning. If this fails, the most likely cause is an error in the changes to ADALNI or a failure to modify local UEXITB routines to conform to the Unicenter CA-APAS conventions described in the appendix "Link Module Exit Routines" in the *Unicenter CA-APAS Systems Guide*.
3. Logon to the Unicenter CA-APAS Natural library and start the Unicenter CA-APAS request ACBXVRFY by entering START in the CMD field, ACBXVRFY in the REQ field and pressing Enter.
4. Press PF5 to display the SHOW screen.
5. Display the request ACBXVRFY.

The USER-TYPE field should contain TP and NAT-MOD-ID should contain the Unicenter CA-APAS Natural library name and Natural program names like INSHOW.

If the USER-TYPE and NAT-MOD-ID fields are blank, the probable cause is that a non-ACBX version of the Adabas link routine module is being used instead of the ACBX version that was intended. Search all libraries concatenated ahead of the one that contains the ACBX version and look for any modules named Adabas; rename any that are found and retest the system.

Another possible cause may be the failure of a local supplied UEXITB link module exit to conform to the conventions described in the chapter "Multiple Link Routine Exits" in the *Unicenter CA-APAS Systems Guide*.

Fujitsu MSP Batch Installation

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

The Unicenter CA-APAS UEXITB routine for ADALNK has three modules; DBGDRVFU, DBGSTCFU, and DBGLNKFU.

Follow these steps to modify the Adabas link routine, ADALNK, and install the Unicenter CA-APAS UEXITB modules:

1. Examine DBGDRVFU in the Unicenter CA-APAS SOURCE library. It explains an assembly option that allows a site to control whether the UINFO data area is cleared between each Adabas call or not. The default is to clear UINFO each time before passing it to the UEXB link routines listed in DBGSTCFU.

   If you do not want to change the default, proceed to Step 4.
2. Use the AIEDIT macro to change the values of the environment variables in the ASMDRVFU member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
3. Submit the ASMDRVFU job to assemble and link edit DBGDRVFU.
4. Examine DBGLNKFU in the Unicenter CA-APAS SOURCE library. It explains some assembly options that allow a site to control the information that is collected and passed to the Unicenter CA-APAS Data Collector.
5. Use the AIEDIT macro to change the values of the environment variables in the ASMLNKFU member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
6. Submit the ASMLNKFU job to assemble and link edit DBGLNKFU.
7. Modify the Software AG source member ADALNK, setting the value of LNUINFO to 232 (decimal). This provides a 112 byte User Information Data Area for DBGLNKFU, no work area for DBGLNKFU, and the 120-byte work area required by DBGDRVFU.
8. Assemble and link edit ADALNK using the Software AG "Installing Adabas with Batch / TSO" installation instructions.
9. Use the AIEDIT macro to change the values of the environment variables in the LNKLNKFU member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
10. Submit the LNKLNKFU job to link edit ADALNK with the DBGDRVFU, DBGSTCFU, and DBGLNKFU UEXITB modules.
11. If the new ADALNK module is link edited into the Unicenter CA-APAS LOAD library, then the Unicenter CA-APAS LOAD library must be ahead of the Adabas load library in the STEPLIB concatenation for user batch jobs calling Adabas.

Verify Batch ACBX

Use the Unicenter CA-APAS request ACBXVRFY to verify that the ACBX facility is working correctly for batch environments.

Start the ACBXVRFY request:

1. Invoke Natural from a terminal and logon to the Unicenter CA-APAS Natural library.
2. Start the Unicenter CA-APAS request ACBXVRFY by entering START in the CMD field and ACBXVRFY in the REQ field and pressing Enter.

To verify batch:

1. Run a batch job that accesses the database that has the Data Collector attached, making sure that the batch job uses the ACBX version of ADALNK.
2. Logon to Unicenter CA-APAS and display ACBXVRFY by entering DI in the CMD field and ACBXVRFY in the REQ field and pressing Enter.

The USER-TYPE field should contain BT. The NAT-MOD-ID field may or may not contain information depending on whether the batch program was a Natural program or not.

If the USER-TYPE field is blank, the ACBX facility is not installed properly. Review the installation steps and the troubleshooting tips.

Fujitsu AIM/DC Installation

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

The Unicenter CA-APAS UEXITB routine for ADALNA has three modules; DBGDRVFA, DBGSTCFA, and DBGLNFA.

For AIM/DC follow these steps to modify the Adabas link routine, ADALNA, and install the Unicenter CA-APAS UEXITB modules:

1. Examine DBGDRVFA in the Unicenter CA-APAS SOURCE library. It explains an assembly option that allows a site to control whether the UINFO data area is cleared between each Adabas call or not. The default is to clear UINFO each time before passing it to the UEXB link routines listed in DBGSTCFA.

   If you do not want to change the default, proceed to Step 4.
2. Use the AIEDIT macro to change the values of the environment variables in the ASMDRVFA member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
3. Submit the ASMDRVFA job to assemble and link edit DBGDRVFA.
4. Examine the DBGLNFA source member in the Unicenter CA-APAS SOURCE library. It explains some assembly options that allow a site to control the information that is collected and passed to Unicenter CA-APAS Data Collector.
5. Use the AIEDIT macro to change the values of the environment variables in the ASMLNFA member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet
6. Submit the ASMLNFA job to assemble and link edit DBGLNFA.
7. Modify the Software AG source member ADALNA setting the value of LNUINFO to 232 (decimal). This provides a 112 byte User Information Data Area for DBGLNFA, no work area for DBGLNFA, and the 120-byte work area required by DBGDRVFA.
8. Assemble and link edit ADALNA using the Software AG “Installing Adabas with AIM/DC” installation instructions.
9. Use the AIEDIT macro to change the values of the environment variables in the LNKLNFA member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
10. Submit the LNKLNFA job to link edit ADALNA with the DBGDRVFA, DBGSTCFA, and DBGLNFA UEXITB modules.
11. If the new ADALNA module is link edited into the Unicenter CA-APAS LOAD library, then the Unicenter CA-APAS LOAD library must be ahead of the Adabas load library in the AIM/DC STEPLIB concatenation.

Verify AIM/DC ACBX

Use the Unicenter CA-APAS request ACBXVRFY to verify that the ACBX facility is working correctly for Fujitsu AIM/DC environments.

1. The Adabas link routine is a resident program therefore AIM/DC must be recycled before the new ACBX version of the Adabas link routine is executed.
2. Invoke Natural from a terminal logged onto the AIM/DC being tested.

   Note: If this is successful, it verifies that the Adabas calling mechanism is still functioning. If this fails, the most likely cause is an error in the changes to ADALNA or a failure to modify local UEXITB routines to conform to the Unicenter CA-APAS conventions described in the chapter "Multiple Link Routine Exits" in the *Unicenter CA-APAS Systems Guide*.
3. Logon to the Unicenter CA-APAS Natural library and start the Unicenter CA-APAS request ACBXVRFY by entering START in the CMD field, ACBXVRFY in the REQ field and pressing Enter.
4. Press PF5 to display the SHOW screen.
5. Display the request ACBXVRFY.

The USER-TYPE field should contain TP and NAT-MOD-ID should contain the Unicenter CA-APAS Natural library name and Natural program names like INSHOW.

If the USER-TYPE and NAT-MOD-ID fields are blank, the probable cause is that a non-ACBX version of the Adabas link routine module is being used instead of the ACBX version that was intended. Search all libraries concatenated ahead of the one that contains the ACBX version and look for any modules named ADABAS; rename any that are found and retest the system.

Another possible cause may be the failure of a local supplied UEXITB link module exit to conform to the conventions described in the chapter "Multiple Link Routine Exits" in the *Unicenter CA-APAS Systems Guide*.

Hitachi VOS3 Batch Installation

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

The Unicenter CA-APAS UEXITB routine for ADALNK has three modules; DBGDRIVK, DBGSTACK, and DBGLNK5.

Follow these steps to modify the Adabas link routine, ADALNK, and install the Unicenter CA-APAS UEXITB modules:

1. Examine DBGDRIVK in the Unicenter CA-APAS SOURCE library. It explains an assembly option that allows a site to control whether the UINFO data area is cleared between each Adabas call or not. The default is to clear UINFO each time before passing it to the UEXB link routines listed in DBGSTACK.

   If you do not want to change the default, proceed to Step 4.
2. Use the AIEDIT macro to change the values of the environment variables in the ASMDRIVK member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
3. Submit the ASMDRIVK job to assemble and link edit DBGDRIVK.
4. Examine DBGLNK5 in the Unicenter CA-APAS SOURCE library. It explains some assembly options that allow a site to control the information that is collected and passed to the Unicenter CA-APAS Data Collector.
5. Use the AIEDIT macro to change the values of the environment variables in the ASMLNK5 member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
6. Submit the ASMLNK5 job to assemble and link edit DBGLNK5.
7. Modify the Software AG source member ADALNK, setting the value of LNUINFO to 232 (decimal). This provides a 112 byte User Information Data Area for DBGLNK5, no work area for DBGLNK5, and the 120-byte work area required by DBGDRIVK.
8. Assemble and link edit ADALNK using the Software AG "Installing Adabas with Batch / TSO" installation instructions.
9. Use the AIEDIT macro to change the values of the environment variables in the LNKLNK5 member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
10. Submit the LNKLNK5 job to link edit ADALNK with the DBGDRIVK, DBGSTACK, and DBGLNK5 UEXITB modules.
11. If the new ADALNK module is link edited into the Unicenter CA-APAS LOAD library, then the Unicenter CA-APAS LOAD library must be ahead of the Adabas load library in the STEPLIB concatenation for user batch jobs calling Adabas.

Verify Batch ACBX

Use the Unicenter CA-APAS request ACBXVRFY to verify that the ACBX facility is working correctly for batch environments.

Start the ACBXVRFY request:

1. Invoke Natural from a terminal and logon to the Unicenter CA-APAS Natural library.
2. Start the Unicenter CA-APAS request ACBXVRFY by entering START in the CMD field and ACBXVRFY in the REQ field and pressing Enter.

To verify batch:

1. Run a batch job that accesses the database that has the Data Collector attached, making sure that the batch job uses the ACBX version of ADALNK.
2. Logon to Unicenter CA-APAS and display ACBXVRFY by entering DI in the CMD field and ACBXVRFY in the REQ field and pressing Enter.

The USER-TYPE field should contain BT. The NAT-MOD-ID field may or may not contain information depending on whether the batch program was a Natural program or not.

If the USER-TYPE field is blank, the ACBX facility is not installed properly. Review the installation steps and the troubleshooting tips.

Hitachi DCCM/XDM Installation

Note: This step is required whether you are installing for the first time or migrating from a previous release of Unicenter CA-APAS.

The Unicenter CA-APAS UEXITB routine for ADALND has three modules; DBGDRVHD, DBGSTCHD, and DBGLNHD.

Follow these steps to modify the DCCM/XDM Adabas link routine, ADALND, and install the Unicenter CA-APAS UEXITB modules:

1. Examine DBGDRVHD in the Unicenter CA-APAS SOURCE library. It explains an assembly option that allows a site to control whether the UINFO data area is cleared between each Adabas call or not. The default is to clear UINFO each time before passing it to the UEXB link routines listed in DBGSTCHD.

   If you do not want to change the default, proceed to Step 4.

2. Use the AIEDIT macro to change the values of the environment variables in the ASMDRVHD member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
3. Submit the ASMDRVHD job to assemble and link edit DBGDRVHD.
4. Examine the DBGLNHD source member in the Unicenter CA-APAS SOURCE library. It explains some assembly options that allow a site to control the information that is collected and passed to Unicenter CA-APAS Data Collector.
5. Use the AIEDIT macro to change the values of the environment variables in the ASMLNHD member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet
6. Submit the ASMLNHD job to assemble and link edit DBGLNHD.
7. Modify the Software AG source member ADALND setting the value of LNUINFO to 232 (decimal). This provides a 112 byte User Information Data Area for DBGLNHD, no work area for DBGLNHD, and the 120-byte work area required by DBGDRVHD.
8. Assemble and link edit ADALND using the Software AG "Installing Adabas with AIM/DC" installation instructions.
9. Use the AIEDIT macro to change the values of the environment variables in the LNKLNHD member in the Unicenter CA-APAS SOURCE library as specified on the Unicenter CA-APAS Installation Worksheet.
10. Submit the LNKLNHD job to link edit ADALND with the DBGDRVHD, DBGSTCHD, and DBGLNHD UEXITB modules.
11. If the new ADALND module is link edited into the Unicenter CA-APAS LOAD library, then the Unicenter CA-APAS LOAD library must be ahead of the Adabas load library in the DCCM/XDM STEPLIB concatenation.

Verify DCCM/XDM ACBX

Use the Unicenter CA-APAS request ACBXVRFY to verify that the ACBX facility is working correctly for Hitachi DCCM/XDM environments.

1. The Adabas link routine is a resident program therefore DCCM/XDM must be recycled before the new ACBX version of the Adabas link routine is executed.
2. Invoke Natural from a terminal logged onto the DCCM/XDM being tested.

   Note: If this is successful, it verifies that the Adabas calling mechanism is still functioning. If this fails, the most likely cause is an error in the changes to ADALND or a failure to modify local UEXITB routines to conform to the Unicenter CA-APAS conventions described in the chapter "Multiple Link Routine Exits" in the *Unicenter CA-APAS Systems Guide*.
3. Logon to the Unicenter CA-APAS Natural library and start the Unicenter CA-APAS request ACBXVRFY by entering START in the CMD field, ACBXVRFY in the REQ field and pressing Enter.
4. Press PF5 to display the SHOW screen.
5. Display the request ACBXVRFY.

The USER-TYPE field should contain TP and NAT-MOD-ID should contain the Unicenter CA-APAS Natural library name and Natural program names like INSHOW.

If the USER-TYPE and NAT-MOD-ID fields are blank, the probable cause is that a non-ACBX version of the Adabas link routine module is being used instead of the ACBX version that was intended. Search all libraries concatenated ahead of the one that contains the ACBX version and look for any modules named ADABAS; rename any that are found and retest the system.

Another possible cause may be the failure of a local supplied UEXITB link module exit to conform to the conventions described in the chapter "Multiple Link Routine Exits" in the *Unicenter CA-APAS Systems Guide*.

Chapter 3

Performance History System Installation

Installation of the Unicenter CA-APAS Insight Monitor for Adabas (Unicenter CA-APAS) Performance History System (the History System) is optional. It is not required by any of the facilities discussed earlier in this document. You should become familiar with the other facilities before installing the Performance History System.

IBM z/OS and OS/390 users, Fujitsu MSP users, and Hitachi VOS3 users need to complete the following steps.

Performance History System

This component of Unicenter CA-APAS allows you to build a historical file of Adabas performance data and to display this information in a variety of ways.

A comprehensive discussion of the objectives, design and functioning of the History System is contained in the *Unicenter CA-APAS Performance History Guide*. You should review that material before installing the History System.

Further information about initializing the History file and controlling its contents is contained in *Unicenter CA-APAS Performance History Guide*. Where the instructions given below differ from those in *Unicenter CA-APAS Performance History Guide*, this document takes precedence.

Installing the Unicenter CA-APAS History System

This section provides step-by-step instructions you use to install the Unicenter CA-APAS History System. You may wish to modify some of the steps for your particular installation.

Step 1. Complete the Unicenter CA-APAS History System Installation Worksheet

Note: This step is required whether you are installing for the first time or migrating from a previous release of the Unicenter CA-APAS History System.

The JCL members you use in the installation steps that follow need to be modified to conform to your site's specifications. At a minimum, you must change each PDS member to supply job cards, data set names, and VOLSER information.

In this step, you complete the Unicenter CA-APAS History System Installation Worksheet below with the defaults to be used to modify the installation PDS members.

Unicenter CA-APAS History System Installation Worksheet

Enter the values you assign to the environment variables in the following table.

Environment Variable	Value
ADADBID	Specify a value for the DATABASE parameter to be used in distributed JCL.
ADALOAD	Specify a value for the Adabas load library to be used in distributed JCL.
ADASVC	Specify a value for the Adabas SVC number to be used in distributed JCL.
DISKUNIT	Specify a value for the generic DASD unit name to be used in distributed JCL.

Environment Variable	Value
FSYSDBID	Specify a value for the DBID for the Adabas file containing the Natural System file (FNAT or FDIC) to which the DDMs should be loaded.
FSYSFNR	Specify a value for the file number for the Adabas file containing the Natural System file (FNAT or FDIC) to which the DDMs should be loaded.
FSYSPSWD	Specify a value for the password for the Adabas file containing the Natural System file (FNAT or FDIC) to which the DDMs should be loaded.
FUSRDBID	Specify a value for the DBID for the Adabas file containing the Natural User library (FUSER) to which the Natural source and objects members are to be loaded.
FUSRFNR	Specify a value for the file number for the Adabas file containing the Natural User library (FUSER) to which the Natural source and objects members are to be loaded.
FUSRPSWD	Specify a value for the password for the Adabas file containing the Natural User library (FUSER) to which the Natural source and objects members are to be loaded.
HLQ	Specify a value for the high-level qualifier of all data sets to be used in distributed JCL.
HSTLIBID	Specify the value for the Natural library-id where Natural source and object members are to be loaded for the Unicenter CA-APAS History System. The default value is APASHIST. You can accept this default or specify a new library-id.

Environment Variable	Value
JOBCARD1	Specify a value for the jobcard line one to be used in distributed JCL.
JOBCARD2	Specify a value for the jobcard line two to be used in distributed JCL.
MLQ	Specify a value for the mid-level qualifier of all data sets to be used in distributed JCL.
NATBATCH	Specify a value for the Natural batch nucleus name to be used in distributed JCL.
NATLOAD	Specify a value for the Natural load library to be used in distributed JCL.
PRODVOL	Specify a value for the DASD volume on which product libraries are allocated.
TAPEUNIT	Specify a value for the generic tape unit name to be used in the distributed JCL used to unload product libraries.
TAPEVOL	Specify a value for the VOLSER of the distribution tape to be used in the JCL used to unload product libraries.
VVVV	Specify a value for the Unicenter CA-APAS version of all data sets to be used in the distributed JCL.

Step 2. Read AHREADME

Note: This step is required whether you are installing for the first time or migrating from a previous release of the Unicenter CA-APAS History System.

Read the AHREADME member in the Unicenter CA-APAS INSTALL library for additional information you may need for this installation and/or product usage.

Step 3. Modify the Unicenter CA-APAS History System Installation Edit Macro

Note: This step is required whether you are installing for the first time or migrating from a previous release of the Unicenter CA-APAS History System.

We recommend that you use the edit macro member AHEDIT in the Unicenter CA-APAS INSTALL library to quickly and accurately make changes to the PDS members used to install the Unicenter CA-APAS History System. You modify AHEDIT with the values entered on the Unicenter CA-APAS History System Installation Worksheet.

Follow these steps to modify AHEDIT.

1. Replace the rightmost parameters of each ISREDIT CHANGE macro with the corresponding values entered on the Unicenter CA-APAS History System Installation Worksheet.
2. Store AHEDIT in a library that is concatenated to the SYSPROC DD in your TSO logon procedure.
3. Each time you edit an installation member, type AHEDIT on the TSO command line and press Enter to replace the generic environment variables with your site-specific specifications.

Step 4. Allocate and Load Unicenter CA-APAS History System Product Files

Note: This step is required whether you are installing for the first time or migrating from a previous release of the Unicenter CA-APAS History System.

IBM z/OS and OS/390 Systems

Use the following steps to modify JCL member AHUNLOAD in the Unicenter CA-APAS INSTALL library to allocate and load the Unicenter CA-APAS History System product files.

1. Modify AHUNLOAD.

   Use the AHEDIT macro to change the values of the environment variables in the AHUNLOAD member in the Unicenter CA-APAS INSTALL library as specified on the Unicenter CA-APAS History System Installation Worksheet.

2. Submit the AHUNLOAD JCL.

   If you receive a non-zero return code, correct the JCL and resubmit the job. You may use AHDELETE in the INSTALL library to delete any data sets allocated with AHUNLOAD.

Fujitsu MSP Systems

Use the following steps to modify JCL member AHUNLD$F in the Unicenter CA-APAS INSTALL library to allocate and load the Unicenter CA-APAS History System product files.

1. Modify AHUNLD$F.

   Use the AHEDIT macro to change the values of the environment variables in the AHUNLD$F member in the Unicenter CA-APAS INSTALL library as specified on the Unicenter CA-APAS Installation Worksheet.

2. Submit the AHUNLD$F JCL.

   If you receive a non-zero return code, correct the JCL and resubmit the job. You may use AHDELETE in the Unicenter CA-APAS INSTALL library to delete any data sets allocated with AHUNLD$F.

Hitachi VOS3 Systems

Use the following steps to modify JCL member AHUNLD$H in the Unicenter CA-APAS INSTALL library to allocate and load the Unicenter CA-APAS History System product files.

1. Modify AHUNLD$H.

   Use the AHEDIT macro to change the values of the environment variables in the AHUNLD$H member in the Unicenter CA-APAS INSTALL library as specified on the Unicenter CA-APAS Installation Worksheet.

2. Submit the AHUNLD$H JCL.

   If you receive a non-zero return code, correct the JCL and resubmit the job. You may use AHDELETE in the Unicenter CA-APAS INSTALL library to delete any data sets allocated with AHUNLD$H.

Step 5. Load a New or Modify the Existing Unicenter CA-APAS History File

Note: This step is required whether you are installing for the first time or migrating from a previous release of the Unicenter CA-APAS History System.

If you are installing the History System for the first time or wish to create a new file, proceed with the following section Load a New History File.

If you are an existing History System user, skip to the section Modify an Existing History File.

Load a New History File

If you do not already have a Unicenter CA-APAS History System file or wish to create a new file, you need to load a new, empty file. This can be done in one of two ways:

Approach 1

Execute the Adabas ADACMP and ADALOD utilities. The necessary ADACMP field definition statements required for input to ADACMP are in the APASCMP source member in the Unicenter CA-APAS SOURCE library.

Approach 2

Execute the Adabas ADALOD utility including as the DDEBAND input data set the empty unloaded file unloaded from the distribution tape by the unload job, AHUNLOAD.

hlq.mlq.HIST*vvvv*.UNLOAD

Alternatively, you can input the data set directly from the distribution tape:

Tape File Seq #11 - CA.APAS*vvvv*.HISTORY.UNLOAD

The field definition statements are in the APASCMP source member in the Unicenter CA-APAS SOURCE library.

Modify an Existing History File

If you have an existing Unicenter CA-APAS History System file, you may need to add some new field definitions to the file and change some of the field definitions before attempting to execute the new Unicenter CA-APAS History System programs against the file.

If you are upgrading from V3.4 or V3.5, complete the following steps to add the new fields, change some existing fields, and then release and re-invert some superdescriptors:

1. Using the NEWFIELD function of the Adabas ADADBS utility, add the new field definitions found in the APASNFLD source member in the Unicenter CA-APAS SOURCE library.
2. Using the CHANGE function of the Adabas ADADBS utility, change some of the existing field definitions using the APASCHNG source member in the Unicenter CA-APAS SOURCE library.
3. Using the RELEASE function of the Adabas ADADBS utility, to release the superdescriptor fields listed in the APASCHNG source member in the Unicenter CA-APAS SOURCE library.
4. Using the INVERT function of the Adabas ADAINV utility, re-invert the superdescriptors using definitions found the APASCHNG source member in the Unicenter CA-APAS SOURCE library.

Step 6. Load the Unicenter CA-APAS History System Natural Components

Note: This step is required whether you are installing for the first time or migrating from a previous release of the Unicenter CA-APAS History System.

This version of the Unicenter CA-APAS History System is for use with Natural V3.1 and higher.

Load the Unicenter CA-APAS History System DDM, source, and object members into the appropriate Natural System file under the APASHIST library-id or some other library-id of your choice. The program DGRLDNAT in the Unicenter CA-APAS LOAD library unloaded from the tape earlier loads the DDM, source, and object members.

Any source or object members already in the APASHIST library are replaced if their names match those members unloaded from the distribution tape. All other old members in the library are unaffected. The same is true for the DDM, APAS-HISTORY.

Follow these steps to load the Unicenter CA-APAS History System Natural DDMs, source, and object members:

1. If you are using Natural security, you must define the Unicenter CA-APAS History System application id. This is the value of the HSTLIBID variable, as defined in the Installation Worksheet.
2. Use the AHEDIT macro to change the values of the environment variables in the LDHSTNAT member in the Unicenter CA-APAS SOURCE library.
3. Submit the LDHSTNAT JCL to load the Natural DDM, source and object members. If you receive a non-zero return code, correct the JCL and resubmit the job.
4. Logon to Natural and use the online Natural utility SYSDDM to change the APAS-HISTORY DDM database id and file number to refer to the history file loaded in Step 5. Load a New or Modify an Existing Unicenter CA-APAS History File in this chapter.
5. Optionally, you can edit the Natural source program MENU to change the default values assigned to +CPUID and +DBID to reflect local values. Save the modified version of MENU.

6. If you have specified application ids other than INSIGHT and/or APASHIST, make the following updates to the Natural source programs below:

   Modify the MENU program in the History System library replacing the INSIGHT library-id in the line STACK TOP COMMAND 'LOGON' 'INSIGHT' with the application id you chose for INSIGHT. Use the SAVE command to save the MENU program.

   Modify the INMENU program in the INSIGHT library replacing the APASHIST library-id in the line STACK TOP COMAND 'LOGON' 'APASHIST' with the application id you chose for the History System. Use the STOW command to save and catalog the updated INMENU program.

7. Execute the GLOBALS command and note the value of the decimal character (DC) parameter for your Natural session. Change it to a period '.' if it is any other value.

8. Execute the Natural CATALL command to catalog all the programs.

   a) On the Natural V3.1 Catalog Objects Catall screen, mark the options:

```
14:21:47              ***** NATURAL CATALL COMMAND *****             2002-09-25
User ABEJU01            - Catalog Objects in Library -         Library APASHIST

Catalog Objects from .. *_______  (start value, range, input list)
                to .... ________  (end value)

                                        Recatalog only existing modules
Select object types:                  X Catalog all sources
    Global data areas                 Select function:
    Parameter data areas                  Save
    Local  data areas                     Catalog
    Copycodes                           X Stow
    Texts                                 Check
    External Subroutines              Select options:
    Subprograms                           Condition code in batch
    Helproutines                        X Renumber source-codes lines
    Maps                                  Keep result list
X   Programs                            X Processing information
    Classes                             X Error report

Command ===>
```

   b) After the CATALL operation, examine the error report screen. It should list only the following:

      COPYRITE Error 261.

c) If you loaded Unicenter CA-APAS History System Natural programs into a library which contained an earlier version of the History System Natural applications, then the CATALL could also list:

APASHUP1

HCONVERT

Ignore this error and scratch these programs since they are no longer needed.

After all the programs have been cataloged, the LIST PROGRAM listing should show both source and compiled objects for each program.

9. If you changed the DC parameter earlier, now change it back to its original value.

Step 7. Add Retention Control (RC) Records

Note: This step is required if you are installing for the first time.

An RC, Retention Control, record is required for each unique combination of database ID and CPU-ID for which you intend to store data in the History file.

1. Logon to the Unicenter CA-APAS History System by invoking Natural from a terminal and logon to the APASHIST library or other ID you may have used when loading the History System Natural components in Step 6 of this chapter.
2. Execute the command MENU
3. Select the Main Menu function code:

   ```
   X   UPDATE FUNCTIONS FOR HISTORY FILE
   ```

4. Select the Update Function Menu code:

   ```
   R   RETENTION CONTROL (RC) RECORD MAINTENANCE
   ```

5. Add an RC record for each unique DBID and CPUID combination that is maintained in the History file.

See *Unicenter CA-APAS Performance History Guide* for further information on retention control records.

Step 8. Review Default Unicenter CA-APAS History System Data Requests

Note: This step is required whether you are installing for the first time or migrating from a previous release of the Unicenter CA-APAS History System.

Review the default history data requests in the source member APSDFLT3 in the Unicenter CA-APAS SOURCE library. Modifications made to various APSDFLT3 requests are documented in the member. The new versions of the APSDFLT3 requests must replace any earlier versions of the APSDFLT3 requests.

Select one or more of the APSDFLT3 requests to add to the Unicenter CA-APAS control card input stream, DBGIN, of the MPM or job that generates historical data. You also need to add the appropriate DD statements for the PRINT TO and OUTPUT FILE files specified in the requests.

It is neither intended nor recommended that all of the requests in APSDFLT3 be used for all batch or MPM executions of Unicenter CA-APAS. Subsets of these requests should be selected dependent on the intended use of the History System.

Note: The request HUP5ACT is required for full use of the History System.

Step 9. Set up Unicenter CA-APAS History System File Update Programs

Note: This step is required if you are installing for the first time.

Use the AHEDIT macro to change the values of the environment variables in the HUPxJCL members in the Unicenter CA-APAS SOURCE library.

There are several JCL members, HUPxJCL, in the Unicenter CA-APAS SOURCE library. Review these jobs to see how data from the default Unicenter CA-APAS History System requests are posted to the History file. See the *Unicenter CA-APAS Performance History Guide*.

Set up procedures for running batch Natural jobs to execute the History file update programs that correspond to the requests you selected in the previous step from APSDFLT3.

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